

**FLUOR FERNALD CLOSURE PLAN
BASIS OF ESTIMATE**

**PBS-05
WASTE PITS PROJECT**

SEPTEMBER 2001

**70000-PL-0006
REVISION 1**

Section 1: FEAA – Waste Pits Project Management

- 1.0 Narrative
 - 1.1 Overview – FEAA1 – Waste Pits Project Management
 - 1.2 Assumptions/Exclusions – FEAA1 – Waste Pits Project Management
 - 1.3 Drivers – FEAA1 – Waste Pits Project Management
 - 1.4 Project Plan/Technical Scope and Quantification – FEAA1 – Waste Pits Project Management
 - 1.4.1 Plan/Scope – Waste Pits Project Management
 - 1.4.2 Quantification – Waste Pits Project Management
- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 Waste Pits Project Management
- 4.0 Estimate
- 5.0 Risk Plan

Section 2: FCBB – Waste Pit Operations

- 1.0 Narrative
 - 1.1 Overview
 - 1.1.1 FCBB3 – IT Subcontract
 - 1.1.2 FCBBX – Fluor Fernald Operations Labor and Maintenance
 - 1.1.3 FCBB5 – Fluor Fernald Operations Staff
 - 1.1.4 FCBBC – Waste Pit Area Characterization
 - 1.2 Assumptions/Exclusions
 - 1.2.1 Assumptions
 - 1.2.1.1 FCBB3 – IT Subcontract
 - 1.2.1.2 FCBBX – Fluor Fernald Operations Labor and Maintenance
 - 1.2.1.3 FCBB5 – Fluor Fernald Operations Staff
 - 1.2.1.4 FCBBC – Waste Pit Area Characterization
 - 1.2.2 Exclusions
 - 1.2.2.1 FCBB3 – IT Subcontract
 - 1.2.2.2 FCBBX – Fluor Fernald Operations Labor and Maintenance
 - 1.2.2.3 FCBB5 – Fluor Fernald Operations Staff
 - 1.2.2.4 FCBBC – Waste Pit Area Characterization
 - 1.2.3 Government-Furnished Equipment/Services
 - 1.2.3.1 FCBB3 – IT Subcontract
 - 1.2.3.2 FCBBX – Fluor Fernald Operations Labor and Maintenance
 - 1.2.3.3 FCBB5 – Fluor Fernald Operations Staff
 - 1.2.3.4 FCBBC – Waste Pit Area Characterization
 - 1.3 Drivers
 - 1.3.1 FCBB3 – IT Subcontract
 - 1.3.2 FCBBX – Fluor Fernald Operations Labor and Maintenance
 - 1.3.3 FCBB5 – Fluor Fernald Operations Staff
 - 1.3.4 FCBBC – Waste Pit Area Characterization
 - 1.4 Project Physical Description
 - 1.4.1 FCBB3 – IT Subcontract
 - 1.4.2 FCBBX – Fluor Fernald Operations Labor and Maintenance
 - 1.4.3 FCBB5 – Fluor Fernald Operations Staff
 - 1.4.4 FCBBC – Waste Pit Area Characterization
 - 1.5 Project Plan/Technical Scope and Quantification
 - 1.5.1 FCBB3 – IT Subcontract
 - 1) Task #1 – Excavation/Processing/Loadout of Materials
 - 1.1)1 Plan/Scope - Excavation/Processing/Loadout of Materials
 - 1.1)2 Quantification - Excavation/Processing/Loadout of Materials
 - 2) Task #2 – Facility D&D
 - 2.1)1 Plan/Scope – Facility D&D
 - 2.1)2 Quantification – Facility D&D
 - 3) Task #3 – Medical Monitoring
 - 3.1)1 Plan/Scope – Medical Monitoring
 - 3.1)2 Quantification – Medical Monitoring

Section 2: FCBB – Waste Pit Operations (Continued)

- 4) Task #4 – Pugmill Ventilation System
 - 4.1)1 Plan/Scope – Pugmill Ventilation System
 - 4.1)2 Quantification – Pugmill Ventilation System
 - 5) Task #5 – WGS Containerized Waste Processing
 - 5.1)1 Plan/Scope – WGS Containerized Waste Processing
 - 5.1)2 Quantification – WGS Containerized Waste Processing
 - 6) Task #6 – Miscellaneous Subcontract Modifications
 - 6.1)1 Plan/Scope – Miscellaneous Subcontract Modifications
 - 6.1)2 Quantification – Miscellaneous Subcontract Modifications
- 1.5.2 FCBBX – Fluor Fernald Operations Labor and Maintenance
- 1) Task #1 – FAT&LC for Waste Preparation/Loadout
 - 1.1)1 Plan/Scope – FAT&LC for Waste Preparation/Loadout
 - 1.1)2 Quantification – FAT&LC for Waste Preparation/Loadout
 - 2) Task #2 – FAT&LC for Waste Drying/Water Treatment/Off-Gas Treatment
 - 2.1)1 Plan/Scope - FAT&LC for Waste Drying/Water Treatment/Off-Gas Treatment
 - 2.1)2 Quantification - FAT&LC for Waste Drying/Water Treatment/Off-Gas Treatment
 - 3) Task #3 – FAT&LC Operations Support
 - 3.1)1 Plan/Scope – FAT&LC Operations Support
 - 3.1)2 Quantification – FAT&LC Operations Support
 - 4) Task #4 – FAT&LC for IT Facility Maintenance
 - 4.1)1 Plan/Scope – FAT&LC for IT Facility Maintenance
 - 4.1)2 Quantification – FAT&LC for IT Facility Maintenance
 - 5) Task #5 – FAT&LC for IT Facility D&D
 - 5.1)1 Plan/Scope – FAT&LC for IT Facility D&D
 - 5.1)2 Quantification – FAT&LC for IT Facility D&D
 - 6) Task #6 – FAT&LC for WGS Containerized Waste Processing
 - 6.1)1 Plan/Scope – FAT&LC for WGS Containerized Waste Processing
 - 6.1)2 Quantification – FAT&LC for WGS Containerized Waste Processing
- 1.5.3 FCBB5 – Fluor Fernald Operations Staff
- 1) Task #1 – Waste Pit Excavation Oversight
 - 1.1)1 Plan/Scope – Waste Pit Excavation Oversight
 - 1.1)2 Quantification – Waste Pit Excavation Oversight
 - 2) Task #2 – Supervision of FAT&LC
 - 2.1)1 Plan/Scope – Supervision of FAT&LC
 - 2.1)2 Quantification – Supervision of FAT&LC
 - 3) Task #3 – Material from Other FEMP Projects
 - 3.1)1 Plan/Scope – Material from Other FEMP Projects
 - 3.1)2 Quantification – Material from Other FEMP Projects

Section 2: FCBB – Waste Pit Operations (Continued)

- 4) Task #4 – Radiological Controls Program
 - 4.1)1 Plan/Scope – Radiological Controls Program
 - 4.1)2 Quantification – Radiological Controls Program
- 5) Task #5 – Operations Oversight
 - 5.1)1 Plan/Scope – Operations Oversight
 - 5.1)2 Quantification – Operations Oversight
- 6) Task #6 – Oversight of IT Facility D&D
 - 6.1)1 Plan/Scope – Oversight of IT Facility D&D
 - 6.1)2 Quantification – Oversight of IT Facility D&D
- 1.5.4 FCBBC – Waste Pit Area Characterization
 - 1) Task #1 – RCRA Characterization of Burn Pit
 - 1.1)1 Plan/Scope – RCRA Characterization of Burn Pit
 - 1.1)2 Quantification – RCRA Characterization of Burn Pit
 - 2) Task #2 – Characterization of Pit 1, 2, and 3 Subsoils
 - 2.1)1 Plan/Scope - Characterization of Pit 1, 2, and 3 Subsoils
 - 2.1)2 Quantification - Characterization of Pit 1, 2, and 3 Subsoils
 - 3) Task #3 – Characterization of Remaining Waste Pit Subsoils
 - 3.1)1 Plan/Scope - Characterization of Remaining Waste Pit Subsoils
 - 3.1)2 Quantification - Characterization of Remaining Waste Pit Subsoils
- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 FATL&C Operations Labor and Maintenance
 - 3.2 Fluor Fernald Operations Staff
 - 3.3 Waste Pit Area Characterization
- 4.0 Estimate
- 5.0 Risk Plan

Section 3: FDEC – Shipping and Disposal Operations

- 1.0 Narrative
 - 1.1 Overview
 - 1.1.1 FDEC5 – Shipping and Disposal Oversight Staff
 - 1.1.2 FDECR – Railcar Shipping
 - 1.1.3 FDECF – Railcar Disposition
 - 1.2 Assumptions/Exclusions
 - 1.2.1 Assumptions
 - 1.2.1.1 FDEC5 – Shipping and Disposal Oversight Staff
 - 1.2.1.2 FDECR – Railcar Shipping
 - 1.2.1.3 FDECF – Railcar Disposition
 - 1.2.2 Exclusions
 - 1.2.2.1 FDEC5 – Shipping and Disposal Oversight Staff
 - 1.2.2.2 FDECR – Railcar Shipping
 - 1.2.2.3 FDECF – Railcar Disposition
 - 1.2.3 Government-Furnished Equipment/Services
 - 1.2.3.1 FDEC5 – Shipping and Disposal Oversight Staff
 - 1.2.3.2 FDECR – Railcar Shipping
 - 1.2.3.3 FDECF – Railcar Disposition
 - 1.3 Drivers
 - 1.3.1 FDEC5 – Shipping and Disposal Oversight Staff
 - 1.3.2 FDECR – Railcar Shipping
 - 1.3.3 FDECF – Railcar Disposition
 - 1.4 Project Physical Description
 - 1.4.1 FDEC5 – Shipping and Disposal Oversight Staff
 - 1.4.2 FDECR – Railcar Shipping
 - 1.4.3 FDECF – Railcar Disposition
 - 1.5 Project Plan/Technical Scope and Quantification
 - 1.5.1 FDEC5 – Shipping and Disposal Oversight Staff
 - 1) Task #1 – On-Site Rail Operations
 - 1.1)1 Plan/Scope – On-Site Rail Operations
 - 1.1)2 Quantification – On-Site Rail Operations
 - 2) Task #2 – Off-Site Rail and Disposal Operations
 - 2.1)1 Plan/Scope - Off-Site Rail and Disposal Operations
 - 2.1)2 Quantification - Off-Site Rail and Disposal Operations
 - 1.5.2 FDECR – Railcar Shipping
 - 1)1 Plan/Scope – Railcar Shipping
 - 1)2 Quantification – Railcar Shipping
 - 1.5.3 FDECF – Railcar Disposition
 - 1)1 Plan/Scope – Railcar Disposition
 - 1)2 Quantification – Railcar Disposition

Section 3: FDEC – Shipping and Disposal Operations (Continued)

- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 Shipping and Disposal Oversight Staff
 - 3.2 D&D Railcar Disposal
- 4.0 Estimate
- 5.0 Risk Plan

Section 4: FNTW – Non-Typical Waste Disposition

- 1.0 Narrative
 - 1.1 Overview – FNTW1 – Non-Typical Waste Operations
 - 1.2 Assumptions/Exclusions – FNTW1 – Non-Typical Waste Operations
 - 1.3 Drivers – FNTW1 – Non-Typical Waste Operations
 - 1.4 Project Physical Description – FNTW1 – Non-Typical Waste Operations
 - 1.5 Project Plan/Technical Scope and Quantification – FNTW1 – Non-Typical Waste Operations
 - 1.5.1 Plan/Scope – Non-Typical Waste Operations
 - 1.5.2 Quantification – Non-Typical Waste Operations
- 2.0 Schedule
- 3.0 Manpower Plans
 - 3.1 Non-Typical Waste Operations
- 4.0 Estimate
- 5.0 Risk Plan

**Waste Pits
Project Management**

**WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER**

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-010H20115	4. INDEX LINE NO. 41
5. WBS ELEMENT CODE 1.1.F	6. WBS ELEMENT TITLE PBS 05 WASTE PITS
7. APPROVED CP NO. CHANGE PER CP# FY01-0115-0005-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3050
11. ELEMENT TASK DESCRIPTION <p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Materials ODC's Subcontracts</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>The Waste Pits Remedial Action Project (WPRAP) is a summary level element which includes all activities necessary to implement the selected remedy of the OU1 Rod. The OU1 ROD encompasses the remediation of the 37.7acre waste pit area of the FEMP. This area, in the northwest quadrant of the FEMP, consists of six waste pits, the Clearwell, and the Burn Pit, wherein wastes from past operations were stored or disposed.</p> <p>Activities included in this element are defined in the following subordinate WBS elements:</p> <p>1.1.F.A Management 1.1.F.B Load Out Operations 1.1.F.C Ship and Disposal Operations 1.1.F.D Non-Typical Waste</p> <p><u>c. SCOPE OF WORK:</u></p> <p>The scope of work consists of the following general activities:</p> <p>1. Excavate the waste from the waste pits, as well as pit subsoils destined for</p>	

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE OF CONTRACT 12/01/2000	
3. IDENTIFICATION NUMBER DE-AC24-01OH20115		4. INDEX LINE NO. 41	
5. WBS ELEMENT CODE 1.1.F		6. WBS ELEMENT TITLE PBS 05 WASTE PITS	
7. APPROVED CP NO. CHANGE PER CP# FY01-0115-0005-00		8. DATE OF CHANGES 12/01/2000	
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA		10. BUDGET AND REPORTING NUMBER EW05H3050	
11. ELEMENT TASK DESCRIPTION			
<p>Envirocare</p> <ol style="list-style-type: none"> 2. Segregate the non-typical waste from the typical waste 3. Processing of typical waste (size classification, blending, drying, sampling and analysis) 4. Loadout of typical waste 5. Decontamination and dismantlement of the processing facilities 6. Interim site restoration 7. Shipping of waste materials via rail and as appropriate, by truck 8. Disposal of the waste at Envirocare and as appropriate, at DOE's Nevada Test Site (NTS) 9. Package, treatment and disposition of non-typical waste 10. Railcar disposition 11. Characterization of soils below the pit <p>The Project's approach for implementing the Remedial Action for OU1 places the responsibility for performing the activities identified in items 1-6 on IT Corporation, and Fluor Fernald, specifically (WPRAP), being responsible for items 7-11, along with oversight of items 1-6.</p> <p>Work scope is further defined in the following subordinate WBS elements:</p> <ul style="list-style-type: none"> 1.1.F.A Management 1.1.F.B Load Out Operations 1.1.F.C Ship and Disposal Operations 1.1.F.D Non-Typical Waste 			

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-01OH20115	4. INDEX LINE NO. 42
5. WBS ELEMENT CODE 1.1.F.A	6. WBS ELEMENT TITLE MANAGEMENT
7. APPROVED CP NO. NEW PER CP# FY01-0115-0005-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3050
11. ELEMENT TASK DESCRIPTION <p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Materials ODC's Subcontracts</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>WPRAP Project Management provides oversight and coordination of activities being performed by project team members involved in the excavation, processing, loadout, shipment and disposal of materials from the waste pits. Project management also provides integration with other FEMP projects and various programmatic groups. Facility Maintenance provides scope for maintenance of all WPRAP owned facilities and equipment through September 30, 2001, at which time PBS 01 will assume this scope.</p> <p>Activities included in this element are defined in the following Work Scope Definition Work Package:</p> <p>FEAA1 Waste Pits Project Management</p> <p><u>c. SCOPE OF WORK:</u></p> <p>Project Management scope is undertaken on a level of effort basis. The following organizational support functions are included within this scope.</p> <p>Project Management, Administrative Management, Contracts Management, Quality Assurance, Health and Safety, Radiological Controls, Environmental Compliance, Project Controls, and Data Management.</p>	

U.S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000		
3. IDENTIFICATION NUMBER DE-AC24-01OH20115		4. INDEX LINE NO. 42	
5. WBS ELEMENT CODE 1.1.F.A	6. WBS ELEMENT TITLE MANAGEMENT		
7. APPROVED CP NO. NEW PER CP# FY01-0115-0005-00		8. DATE OF CHANGES 12/01/2000	
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3050		
<p>11. ELEMENT TASK DESCRIPTION</p> <p>Provides scope for project travel related to program requirements, office supplies and equipment.</p> <p>Facility maintenance consists of routine and as required maintenance of all WPRAP facilities including buildings, grounds and utilities, with the exception of facilities covered under the IT subcontract. Scope for facilities maintenance is covered by WPRAP project only through September 30, 2001.</p> <p>Work scope is further defined in the following Work Scope Definition Work Package:</p> <p>FEAA1 Waste Pits Project Management</p>			

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	-----------------------	--------

3. WBS ELEMENT CODE 1.1.F.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05
--	--

12. TASK IDENTIFICATION (CONTROL ACCOUNT) FEAA	13. TASK DESCRIPTION (ONE LINE) WASTE PITS PROJECT MANAGEMENT
--	---

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Materials
ODCs
Subcontracts

b. TECHNICAL CONTENT:

Waste Pits Project Management provides for a project team to manage the WPRAP project in accordance with approved cost, schedule and technical baselines. This includes oversight and coordination of activities being performed by the project team involved in the excavation, processing, loadout, shipment and disposal of material from the waste pits along with integration with other FEMP projects and programmatic organizations.

Work scope and exclusions are further defined in the following Work Scope Definition Work Package:

FEAA1 Waste Pits Project Management

c. SCOPE OF WORK:

The Project Management scope is undertaken on a level of effort basis. The following functions are included within this scope:

Project Management
Administrative Management
Contract Management
Quality Control

Project Manager <i>March [Signature]</i>	Control Account Manager <i>March [Signature]</i>	Control Team Manager <i>Kari [Signature]</i>
---	---	---

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 2
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05
--	--

12. TASK IDENTIFICATION (CONTROL ACCOUNT) FEAA	13. TASK DESCRIPTION (ONE LINE) WASTE PITS PROJECT MANAGEMENT
--	---

14. ELEMENT TASK DESCRIPTION

Health and Safety
Radiological Controls
Project Controls
Data Management
Technical Support
Provide scope for project travel related to program requirements and office supplies.
Provide scope for maintenance of all WPRAP owned facilities and equipment through September 30, 2001.

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements:
1.1.F.B - Load Out Operations
1.1.F.C - Shipping and Disposal Operations
1.1.F.D - Non-Typical Waste

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? CHANGE PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05
---	--

12. TASK IDENTIFICATION (WORK PACKAGE) FEAA1	13. TASK DESCRIPTION (ONE LINE) WASTE PITS PROJECT MANAGEMENT
--	---

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Materials
ODCs
Subcontracts

b. TECHNICAL CONTENT:

Waste Pits Project Management provides for a project team to manage the WPRAP project in accordance with approved cost, schedule and technical baselines. This includes oversight and coordination of activities being performed by the project team involved in the excavation, processing, loadout, shipment and disposal of material from the waste pits along with integration with other FEMP projects and programmatic organizations.

c. SCOPE OF WORK:

The Project Management scope is undertaken on a level of effort basis. The following operational tasks are included within this scope:

Project management consists of the planning for resources (i.e. personnel and materials) necessary to ensure project performance, overall management of project resources, control and reporting of project performance, integration with other FEMP projects, etc.

Administrative management includes administrative elements of the project that are necessary to support the effective implementation of project activities, and

Project Manager <i>Mark [Signature]</i>	Control Account Manager <i>Mark [Signature]</i>	Control Team Manager <i>Kare [Signature]</i>
--	--	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? CHANGE PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FEAA1	13. TASK DESCRIPTION (ONE LINE) WASTE PITS PROJECT MANAGEMENT		
14. ELEMENT TASK DESCRIPTION			
<p>which are not directly attributable to a specific operational component of the project. This includes secretarial and clerical functions, space planning support, coordination or required reading, assigned reading, lessons learned, and training for the project, credit card purchases, commitment tracking and document maintenance.</p> <p>Contracts management is the oversight of the IT contract, including managing the IT contract, review and administration of contract changes, development of any RFPs needed, invoice review, vendor negotiations, and all contract modifications. For management of the IT subcontract, a significant portion of the work involves the review and administration of contract changes.</p> <p>Quality control includes development of a yearly surveillance and audit plan for the project, scheduling of the plan, ensuring resources are available to implement the plan, verification of unplanned commitments from external assessments, issue nonconformance reports and verify corrective actions, review and approval of project documents, and support of project procurement activities.</p> <p>Health and safety includes performing administrative functions on a daily basis of all health and safety staff matrixed to the project, assist IT H&S Manager in developing response actions to deal with injury trends, develop injury/accident information for presentations and or documents, assist in responding to employee concerns raised during work group meetings and safety walkthroughs, perform work related injury/illness management for project, assist project management with implementing Health and Safety requirements, and to provide IH support to WPRAP project.</p> <p>Radiological controls includes ensuring the consistent application of site radiological control policies and requirements on the project, as well as reviewing any changes or additions to the site radiological control policies and requirements relative to their impact on the project, design of a radiological control program, assessment of data gathered through this program, and development of changes needed, as necessary, to address data trends, are within this operational element. Also includes the management of the staff of radiological control technicians (RCTs) assigned to the project, in support of both IT operational activities, as well as rail operations.</p>			

WORK SCOPE DEFINITION (Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 3
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? CHANGE PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05
---	--

12. TASK IDENTIFICATION (WORK PACKAGE) FEAA1	13. TASK DESCRIPTION (ONE LINE) WASTE PITS PROJECT MANAGEMENT
--	---

14. ELEMENT TASK DESCRIPTION

Project controls includes the support necessary to assist the project in the development, planning, reporting and monitoring of project progress against established baselines (i.e., for both project cost and schedule). Cost/schedule support includes: programmatic coverage for ICE Team review, OMB audits, budget validation, and other audit/independent review functions, programmatic coverage of implementation of DOE Order 430.1 including developing, planning, reporting, and monitoring progress against an integrated performance measurement baseline.

Data management includes receipt of data, verification of accuracy and completeness of the data and data package, assessment of the data (including trending), presentation and distribution of the data to end users, and storage/maintenance of the electronic database and hard copy data files. Also includes management of the occupational radiological air data and the data collected by IT, and to manage and maintain the electronic database for WPRAP data.

Technical support functions include engineering, waste integration planning, WPRAP document and procedure review, facility owner responsibilities, ensuring project compliance to regulatory commitments and any activities identified by WPRAP management that are needed to technically support the project.

Engineering activities include DCN review and approval, design reviews, and safety basis documentation.

Waste integration planning include working with other site organizations (such as Silos Project, Waste Generator Services, and Nuclear Material Disposition) to determine if WPRAP (e.g., WPRAP rail facilities/services) can be utilized for off-site waste disposal, electronically tracking the location of all railcars and the unit train schedule.

WPRAP document and procedure review includes review of IT procedures/documents, assistance with rail operations procedures/documents, SSR, etc., and document development.

Provides scope for project travel related to program requirements and office supplies.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 4
3. WBS ELEMENT CODE 1.1.F.A	4. WBS ELEMENT TITLE/NAME MANAGEMENT		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? CHANGE PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FEAA1	13. TASK DESCRIPTION (ONE LINE) WASTE PITS PROJECT MANAGEMENT		

14. ELEMENT TASK DESCRIPTION

Provides scope for maintenance of all WPRAP owned facilities and equipment through September 30, 2001.

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements:

- 1.1.F.B - Load Out Operations
- 1.1.F.C - Shipping and Disposal Operations
- 1.1.F.D - Non-Typical Waste

Additionally, excluded beginning in FY02, are any programmatic labor costs, such as QA, OA, Public Affairs (PA), Human Resources (HR), Engineering/Construction Document Control (ECDC), etc.

Also, excluded beginning in FY02 is the maintenance of Fluor Fernald facilities (i.e., office trailers), and any government-owned equipment (e.g., vehicles); these will be covered by PBS-01.

SECTION 1

1.0 NARRATIVE

1. PROJECT TITLE: WASTE PITS PROJECT	2. DATE: 09/10/01	3. PBS#: 05
4. WBS ELEMENT CODE: 1.1.F.A.	5. WBS ELEMENT TITLE: WASTE PITS PROJECT MANAGEMENT	
6. CAM NAME/ PHONE: MARK CHERRY	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9. CONTROL ACCOUNT: FEAA	

SECTION 1: FEAA – WASTE PITS PROJECT MANAGEMENT

1.0 NARRATIVE

1.1 OVERVIEW – FEAA1 – WASTE PITS PROJECT MANAGEMENT

WPRAP Project Management provides oversight and coordination of activities being performed by project team members involved in the excavation, processing, loadout, shipment and disposal of materials from the waste pits. Project management also provides integration with other FEMP projects and with the various FEMP programmatic organizations (e.g., Quality Assurance (QA), Health and Safety (H&S), etc.).

1.2 ASSUMPTIONS/EXCLUSIONS – FEAA1 – WASTE PITS PROJECT MANAGEMENT

1.2.1 Assumptions

2. Waste processing, by IT, will continue through January 2005, based on the processing of 540,579 tons, and a limit of 136,000 tons per year. IT D&D activities will take place from February 2005 through August 2005.
3. Shipping and disposal operations will continue through February 2005, at a rate of 21 unit trains per year. Railcar/locomotive dispositioning will take place from January through May 2005.
4. Project management functions will continue, at generally the same level, until waste material processing/shipping is complete (i.e., through January 2005), although reductions in some resource classifications will occur over time, as is noted in Section 1.4. Beginning in February 2005 (during decontamination and dismantlement [D&D] and railcar dispositioning), project management will begin focusing resources on project closeout.
5. Contract management activities will continue through September 2005 within the project management account (i.e., through the assignment of a matrixed contracts administrator, with assistance through the contracting officers technical representative). Beginning in FY06, any remaining contract activities will be managed through the Contracts and Acquisitions organization.

6. Matrixed Quality Control (QC), project controls, and safety personnel will be required through completion of all IT contract activities (i.e., through August 2005), at the levels identified in Section 1.4.
7. A WPRAP radiological control program will need to be maintained for as long as WPRAP field activities are being performed (i.e., through August 2005), radiological engineering personnel will need to be matrixed to the project through that period.
8. Travel and training needed to support project activities (e.g., project meetings and professional certifications), but not covered elsewhere (e.g., in the Shipping and Disposal account) will continue to be covered under the project management account, through January 2005.
9. Office supplies for the project will continue to be covered under the project management account, at existing levels, through January 2005.
10. WPRAP will need to replace safety equipment (e.g., hard hats and safety glasses) for project management personnel, at a rate of 33% per year.
11. Project management personnel will be responsible for the development of sampling and analysis plans for the Burn Pit sampling, and the characterization of the soils below the pits, including the preparation of documents for submittal to the EPAs, and addressing EPA comments to ensure approval of the documents.
12. In FY01, project management will continue to include costs for facility maintenance. Such maintenance consists of the routine, and as required maintenance, of all WPRAP facilities, including buildings, grounds, and utilities, with the exception of facilities covered under the IT subcontract.

1.2.2 Exclusions

1. Beginning in FY02, any programmatic labor costs, such as QA, OA, Public Affairs (PA), Human Resources (HR), Engineering/Construction Document Control (ECDC), etc., will not be covered by the project.
2. Beginning in FY02, winter protective gear for any Fluor Fernald oversight personnel shall be provided by PBS-01.
3. Beginning in FY02, external support for SSR's will not be covered by the project.
4. Beginning in FY02, the costs for personnel relocations will not be covered by the project.
5. Beginning in FY02, the maintenance of Fluor Fernald facilities (i.e., office trailers), and any government-owned equipment (e.g., vehicles); these will be covered by PBS-01.

6. Beginning in FY02, the costs for purchasing/maintaining computer equipment will not be covered by the project.

1.2.3 Government-Furnished Equipment/Services

None

1.3 DRIVERS – FEAA1 – WASTE PITS PROJECT MANAGEMENT

1. EPA Enforceable Milestones – which define Initiation of operations by March 1, 1999 (i.e., loading of waste into railcars).
2. CERCLA requirements – which provide that the work must proceed, such that there is substantive, continuous remediation.
3. The IT Subcontract (#98SC000001) – which defines the requirements which IT must adhere to, so as to perform the waste pit remediation activities in accordance with established commitments, goals, regulatory requirements (e.g., safety, environmental compliance), etc., as well as Fluor Fernald’s responsibilities in support of IT.
4. Various EPA approved documents, such as the Remedial Design Work Plan, the Remedial Action Work Plan, the WPRAP Remedial Design Package, the WPRAP Remedial Action Package, and the WPRAP Non-Typical Waste Management Plan – which define how project is to be implemented.
5. The DOE Ohio Field Office Contract (#DE-AM24-98OH20053) – which define the process by which the FEMP can dispose of wastes at Envirocare.
6. 10 CFR Part 835, “Occupational Radiation Program”, the DOE Radiological Controls Manual, and Attachment J.3.4 of the IT Subcontract (#98SC000001) – which defines the radiological control program to be implemented by Fluor Fernald for Waste Pit Operations.

1.4 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION – FEAA1 – WASTE PITS PROJECT MANAGEMENT

1.4.1 Plan/Scope – Waste Pits Project Management

Fluor Fernald personnel within WPRAP are responsible for providing the resources necessary for the overall management of the WPRAP project. These resources are the essence of this component of the project and include: 1) providing for consistent application of requirements across the project components, 2) providing for overall management of project components, 3) providing administrative functions not specific to a particular project component (but to the project as a whole), and 4) providing for project

interfaces with Fluor Fernald management, other FEMP projects, the DOE, the EPAs, and other stakeholders.

The scope of work provided under this element of the project, is not based on discrete items being produced; rather, this is level of effort type work which is generally necessary regardless of the volume of waste processing, loadout and shipping being performed. As such, the technical scope of project management essentially relates to the services being performed through various functional areas. As identified below, these functional area services are associated with resources which apply to the project as a whole or to more than one operational component of the project, and are not easily dispersible to an operational component.

Project Management

Project management consists of the planning for resources (i.e. personnel and materials) necessary to ensure project performance, overall management of project resources, control and reporting of project performance, integration with other FEMP projects, etc. Project management includes those management and coordination activities performed by the Project Manager, with support from the Deputy Project Manager. The responsibilities of these individuals include:

- Assuring that an adequate safety program is in place for the implementation of safety into the work process.
- Defining, understanding, communicating, and meeting stakeholder requirements.
- Identifying and managing opportunities for work enhancement, efficiency, risk management, and cost savings.
- Maintaining a skilled project team required to complete the project.
- Scheduling and using resources for optimal productivity.
- Planning work through each phase of the project, evaluating progress throughout the project, and modifying approaches as needed.
- Developing and using approved procedures and program/project specific documents; and by revising and improving those procedures and documents, as necessary.
- Providing training and qualification standards for project personnel.

The project management account also includes two Technical/Program Support Managers responsible for the direct management of most of the various functional personnel identified below.

Administrative Management

This includes administrative elements of the project that are necessary to support the effective implementation of project activities, and which are not directly attributable to a specific operational component of the project. Administrative management includes:

- Secretarial/clerical functions, such as word processing, document production (including editing, reviews, comment incorporation, document coordination, distribution list selection and preparation, records coordination and maintenance), phone list updates, meeting scheduling, travel coordination, etc.
- Space planning support, including move coordinations, employee assistance (e.g., in securing boxes), and working with employee to secure project "records".
- Coordination of required reading, assigned reading, and lessons learned program for the project.
- Training coordination to ensure that employees are identified as needing training, to assist in scheduling the training, and to follow-up with employee attendance at the training.
- Credit card purchases for various radiological control supplies, office supplies, etc.
- Commitment tracking, including maintaining up-to-date information related to outside commitments, commitments generated within the project, EDRs/FDRs identified within the project, and assuring the closure documentation is prepared to meet project schedules.
- Maintenance of documents generated in support of the project, including the project file and reference information, and coordination of subcontractor document activities (e.g., documenting acceptance, assisting in document reviews, ensuring distribution, and maintaining copies of the latest version of such documents).

R1-
F05-
001

These activities are being performed through a combination of ~~secretarial~~, department administrative and executive administrative support.

Some of the documents developed by the project are for submittal to the EPAs. In an effort to ensure site-wide consistency in the formatting of these documents (based on past feedback obtained from the EPAs), clerical resources to support the development of such documents have been included in the project management account.

Contracts Management

Contracts management primarily relates to the oversight of the IT contract. For management of the IT subcontract, a significant portion of the work involves the review and administration of contract changes. On an average, WPRAP has had over 16 modifications made to the IT contract each year, as well as addressed numerous other

items which have been determined to not be changes, or have been combined into a single contract modification. Each one of these modifications potentially includes the development of an RFP (including technical scope and estimate), coordination with DOE, as necessary (including securing their approval of the change), reviewing the IT proposal, negotiations, and development and distribution of the contract modification. The extent of these activities depends on the complexity of the modification and the number of changes included in the modification.

In terms of the IT subcontract, contracts management also includes the review and processing of invoices (including verification of work performance with technical project personnel), assessment of IT activities for compliance with the contract (e.g., labor audits), tracking and follow-up with open contract issues, coordination with technical staff on potential contract issues, etc.

Contracts management also ensures that procurement policies and procedures are appropriately applied with respect to project purchases, supports the purchasing of materials and services other than those provided by IT, and secures support and approval necessary from FEMP management and DOE to administer needed procurement actions. As the project nears completion, contracts management will also include gathering all of the information together to document that the work has been completed in accordance with the contract terms.

Performance of these contract management activities is primarily the responsibility of the contracts administrator matrixed to the project. In addition, technical program support is needed to assist in the technical aspects of this contract management (e.g., through the responsibilities of the Contracting Officers Technical Representative).

Quality Control

Although a majority of the quality control work performed in support of the project is specific to support of IT operational activities and rail operations activities, there are elements which apply to the project as a whole, which are accordingly included within the scope of the project management account. This quality control work, which is performed by a part-time QA/QC Technician, includes:

- The development of a yearly surveillance and audit plan for the project, the scheduling of such activities, and ensuring resources are available to implement such a plan. With the breadth of project activities, the surveillances have included over 100 planned surveillances, as well as various unplanned surveillances in a given year.
- Verification of unplanned commitments from external assessments for projects (assume 4/quarter).
- Issue nonconformance reports and verify corrective actions (57 NCRs were issued in the last year for the project as a whole).

R1-
F05-
001

- Review and approval of project documents (e.g., IT deliverables).
- Support of project procurement activities.
- Ensuring that quality assurance requirements/policies are reviewed relative to the impact to the project, and are appropriately applied to project activities.

Health and Safety

R1-
F05-
001

~~Although a majority of the health and safety work performed in support of the project is specific to support of IT operational activities and rail operations activities, there are elements which apply to the project as a whole, which are accordingly included within the scope of the project management account. This Health and safety work, which is performed by a Safety Engineer, includes:~~

- Perform administrative functions on a daily basis of all health and safety staff matrixed to the project, including the resolution of personnel issues, conducting performance reviews, timesheet approval, coordinate/adjust work schedules to fit project support requirements and assignment of daily tasks in support of project functions.
- Assist IT H&S Manager in developing response actions to deal with injury trends.
- Develop injury/accident information (number of injuries, hours worked, incident rate etc.) for presentations and or documents.
- Review and approve photographs and videos from a safety standpoint for publication.
- Assist project management in interpreting Health and Safety requirements and implementing standards as required.
- Review safety related site procedures and other site documents for WPRAP management.
- Provide safety personnel at the WPRAP on a 24-hour a day 7-day a week schedule to perform oversight of contractors to ensure all requirements are being met and to ensure compliance with associated procedures and work plans.
- Assist in responding to employee concerns raised during work group meetings, safety walkthroughs etc.
- Perform work related injury/illness management for WPRAP.
- Provide IH support to WPRAP project (review documents, follow-up on safety issues, etc).

- Review asbestos, arsenic, beryllium, dust, silica, and vanadium air and bulk sample results from IT.

Radiological Controls

For this operational element, radiological controls consists of ensuring the consistent application of site radiological control policies and requirements on the project, as well as reviewing changes or additions to the site radiological control policies and requirements relative to their impact on the project. Radiological controls also consists of the design of a radiological control program which reflects and best serves all aspects of the project, although implementation of specific elements will be against the project operational element (e.g., operations oversight) where the service is being applied. Assessment of the data gathered through this program, and development of changes needed, as necessary, to address data trends, are within this operational element. These activities are performed by the radiological engineers assigned to the project. Another radiological engineer is also responsible for the management of the staff of radiological control technicians (RCTs) assigned to the project, in support of both IT operational activities, as well as rail operations. Overall management of the project's radiological control program is the responsibility of the WPRAP Radiological Controls Manager assigned to the project.

Project Controls

Project controls consists of the support necessary to assist the project in the development, planning, reporting and monitoring of project progress against established baselines (i.e., for both project cost and schedule). Cost/schedule support includes: programmatic coverage for ICE Team review, OMB audits, budget validation, and other audit/independent review functions, programmatic coverage of implementation of DOE Order 430.1 including developing, planning, reporting, and monitoring progress against an integrated performance measurement baseline. Performance of these activities are performed by a Cost Analyst matrixed to the project.

R1-
F05-
001

Data Management/Technical Support

Data management functions include receipt of data, verification of accuracy and completeness of the data and data package, assessment of the data (including trending), presentation and distribution of the data to end users, and storage/maintenance of the electronic database and hard copy data files. These functions are coordinated through the Technical Support Services group within WPRAP, using the services of ~~three Technical/Program Support Representatives~~, ~~Two of the~~ Technical/Program Support Representatives who will manage the occupational radiological air data and the data collected by IT. ~~They remaining Technical/Program Support Representative~~ will also manage and maintain the electronic database for WPRAP data. Additionally, in support of the project's ongoing statistical analysis of the radiological data, a portion of a statistician's time has been accounted for as an Environmental Scientist Representative.

Technical Support

Technical support functions include engineering, waste integration planning, WPRAP document and procedure review, facility owner responsibilities, as well as any similar

activities identified by WPRAP management that are needed to technically support the project. Specifically, technical support includes:

R1-
F05-
001

- Engineering functions, including DCN review and approval, design reviews, and safety basis documentation, ~~will be performed by one Engineer.~~
- Waste integration planning functions include working with other site organizations (i.e. such as Silos Project, Waste Generator Services, and Nuclear Material Disposition) to determine if WPRAP (e.g., WPRAP rail facilities/services) can be utilized for off-site waste disposal, electronically tracking the location of all railcars and the unit train schedule. ~~These planning efforts will be performed by a Technical/Program Support Representative. This individual will also~~
- Support of ~~the~~ WPRAP Shipping and Disposal Operations organization with the planning and implementation of process improvements
- WPRAP document and procedure review (including review of IT procedures/documents)
- Assistance with rail operations procedures/documents
- Preparations for the Pit 4 SSR, ~~etc~~
- Document development (e.g., the Burn Pit sampling and analysis plan),
- Facility owner responsibilities ~~will be performed by two Technical/Program Support Representatives.~~
- ~~Technical support also includes~~ Ensuring project compliance (both for Fluor Fernald and IT) to regulatory commitments such as those identified through the Amended Consent Agreement, the Consent Decree, and/or Director's Findings and Orders. ~~This includes the performance, by Technical/Program Support Representatives, of any necessary assessments,~~ Periodic compliance also includes periodic assessments to ensure IT conformance to such regulatory commitments.
- And all other technical support activities to support WPRAP

R1-
D-

R1-
F05-
001

The above activities will be performed by two Technical/Program Support Representatives and one part-time Engineer.

1.4.2 Quantification – Waste Pits Project Management

As discussed above, waste pits project management personnel required to support the project will remain the same for the remainder of waste processing/shipping activities (i.e., through January 2005). The personnel needs, as described in Section 1.4.1 –

Plan/Scope – Waste Pits Project Management are quantified in Table 1. Beginning in February 2005, these personnel resource needs will decrease, as the project focuses on facility D&D, railcar dispositioning, and project closeout.

Table 1

R1-
F05-
001

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Project Manager	2	Remains constant through 1/05, then drops to 1
Technical/Program Support Mgr.	2	Remains constant through 1/05, then drops to 1
Secretaries-Department Administrator	1	Remains constant through 1/05, then drops to 0
Executive Administrator	1	Remains constant through FY05
Technical/Program Support Rep.	5.5 2	Drops by 1 in FY03 and FY04, then to 2-1 in FY05 (with one of these continuing through 1/05 and one through FY05) and remains constant through end of FY05
Safety Engineer	1	Drops to 0.5 in 2nd quarter of FY02, then Remains constant through 1/05
Rad Supervisor/Manager	1	Remains constant through 1/05, then drops to 0
Rad Engineer	3 -2	Remains constant through 1/05, then drops to 1
QA/QC Technician	0.2	Remains constant through FY05
Buyer/Contracts Administrator	1	Remains constant through FY05
Engineer	4.5	Drops to 1 in FY03, then Remains constant through 1/05
Cost Analyst	1	Remains constant through 1/05, then drops to 0.5
Clerk	0.2	Remains constant through FY05
Environmental Scientist Rep.	0.1	Remains constant through FY04, at 0.1 every other quarter

Discussions in this section, relative to personnel resources, do not include the quantification and rationale for FY01 Fluor Fernald personnel. The rationale for FY01 manpower is based on the charge in and charge out practices that were in effect as of the start of the Fluor Fernald Contract in December 2000. The rationale defined in this document is effective as of October 1, 2001 (i.e., beginning in FY02) and is based on Revision 0 of the "Functional Responsibilities Matrix" issued in January of 2001.

In addition to the personnel needs identified above, there are various materials, subcontract costs, and ODCs needed to support project management. Table 2 provides the quantification of materials, subcontracts and ODCs required.

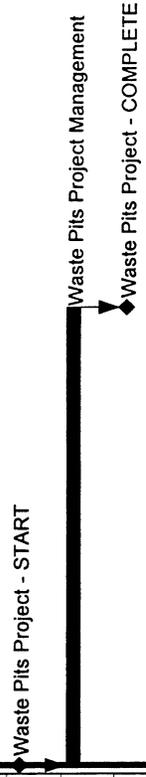
Table 2

CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Materials	\$28,000 each year	Remains constant through FY04, then drops to \$23,000 for FY05, unescalated in FY01 dollars
Subcontracts	\$10,000 each year	Remains constant through FY04, then drops to \$5,000 for FY05, unescalated in FY01 dollars
ODCs	\$12,000 each year	Remains constant through FY04, then drops to \$3,000 for FY05, unescalated in FY01 dollars

SECTION 1

2.0 SCHEDULE

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
F PBS 05 - WASTE PITS															
1.1.F.A MANAGEMENT															
FEA01 WASTE PITS PROJECT MANAGEMENT															
FHAA1MPM00	Waste Pits Project - START	01DEC00		0											
FHAA1MPM20	Waste Pits Project Management	01DEC00	30SEP05	1,209											
FHAA1MPM10	Waste Pits Project - COMPLETE		30SEP05	0											



FLUOR FERNALD	Start Date	01DEC00	BLCF - FH01	Sheet 1 of 1	WASTE PITS 1.1.F.A MANAGEMENT	Date	Revision	Checked/Approved
	Finish Date	30SEP05				F05-005		
	Data Date	01DEC00				F05-008		
	Run Date	09SEP01 11:23				F05-009		
				Early Bar				
				Progress Bar				
				Critical Activity				

SECTION 1

3.0 MANPOWER PLANS

SECTION 1

4.0 ESTIMATE

FEAA1

FLUOR FERNALD MANAGEMENT STAFF

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05

WBS: 1.1.F.A

CTRL ACCT: FEAA

CHARGE NO: FEAA1

COMMENT NO: F-05-001, F-05-006

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Karl Spring

FISCAL YEAR: 01-05

Resource:	BUYCON	Class:	BUYER/CONTRACTS ADMIN		LABOR		EOC:					
			Overtime:	SAL	Overtime:	SAL	EOC:	SAL				
Res Dept:	947											
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			3,017.8	1,747.0	1,747.0	1,747.0	1,747.0	10,005.8	10,005.8	10,005.8	10,005.8	10,005.8
Yr Total Cost:			126,446	77,048	81,609	86,421	91,544	0	0	0	0	0
Cum Total Cost:			126,446	203,494	285,103	371,524	463,068	463,068	463,068	463,068	463,068	463,068

Resource:	CLERKS	Class:	CLERKS		LABOR		EOC:					
			Overtime:	SAL	Overtime:	SAL	EOC:	SAL				
Res Dept:	947											
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			435.6	349.4	349.4	1,483.8	1,833.2	1,833.2	1,833.2	1,833.2	1,833.2	1,833.2
Yr Total Cost:			10,406	8,786	9,306	38,354	48,793	0	0	0	0	0
Cum Total Cost:			10,406	19,193	28,499	48,793	48,793	48,793	48,793	48,793	48,793	48,793

Resource:	CSTANL	Class:	COST ANALYST		LABOR		EOC:					
			Overtime:	SAL	Overtime:	SAL	EOC:	SAL				
Res Dept:	947											
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			1,452.0	1,747.0	1,747.0	1,747.0	1,747.0	7,847.0	7,847.0	7,847.0	7,847.0	7,847.0
Yr Total Cost:			56,483	71,532	75,766	80,233	56,141	0	0	0	0	0
Cum Total Cost:			56,483	128,014	203,781	284,014	340,155	340,155	340,155	340,155	340,155	340,155

Resource:	DEPADM	Class:	DEPT ADMINISTRATOR		LABOR		EOC:					
			Overtime:	SAL	Overtime:	SAL	EOC:	SAL				
Res Dept:	947											
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			2,960.9	1,747.0	1,747.0	1,747.0	517.5	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:			93,890	4,707.9	6,454.9	8,201.9	8,719.4	8,719.4	8,719.4	8,719.4	8,719.4	8,719.4
Cum Total Cost:			93,890	58,310	61,762	65,404	20,522	0	0	0	0	0

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

PBS: OHFN05
WBS: 1.1.F.A
CTRL ACCT: FEAA
CHARGE NO: FEAA1
COMMENT NO: F-05-001, F-05-006

Resource:	DRFCAD Res Dept: 947	DRAFTER/CAD OPERATOR Overtime:	Class:		EOC:		LABOR										
			Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10						
Yr Hours:		100.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		100.9	100.9	100.9	100.9	100.9	100.9	100.9	100.9	100.9	100.9	100.9	100.9	100.9	100.9	100.9	100.9
Yr Total Cost:		3,147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:		3,147	3,147	3,147	3,147	3,147	3,147	3,147	3,147	3,147	3,147	3,147	3,147	3,147	3,147	3,147	3,147

Resource:	ENGINEER Res Dept: 947	ENGINEER Overtime:	Class:		EOC:		LABOR										
			Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10						
Yr Hours:		2,904.0	873.5	873.5	873.5	330.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		2,904.0	3,777.5	4,651.0	5,524.5	5,855.0	5,855.0	5,855.0	5,855.0	5,855.0	5,855.0	5,855.0	5,855.0	5,855.0	5,855.0	5,855.0	5,855.0
Yr Total Cost:		199,679	63,220	66,963	70,911	28,420	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:		199,679	262,899	329,861	400,772	429,193	429,193	429,193	429,193	429,193	429,193	429,193	429,193	429,193	429,193	429,193	429,193

Resource:	ENSMGR Res Dept: 947	ENVR SCIENTIST MGR Overtime:	Class:		EOC:		LABOR										
			Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10						
Yr Hours:		56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9
Yr Total Cost:		3,001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:		3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001	3,001

Resource:	ENSREP Res Dept: 947	ENVR SCIENCE REP Overtime:	Class:		EOC:		LABOR										
			Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10						
Yr Hours:		202.1	44.2	88.4	88.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		202.1	246.3	334.7	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1
Yr Total Cost:		8,480	1,952	4,135	4,379	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:		8,480	10,432	14,568	18,947	18,947	18,947	18,947	18,947	18,947	18,947	18,947	18,947	18,947	18,947	18,947	18,947

Fluor Fernald, Inc.

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Kari Spring
FISCAL YEAR: 01-05

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05
WBS: 1.1.F.A
CTRL ACCT: FEA
CHARGE NO: FEA
COMMENT NO: F-05-001, F-05-006

Resource: Res Dept:	EXEADM 947	EXEC ADMINISTRATOR Overtime:	Class:		EOC:		LABOR	
			Oct 01- Sep 02	Oct 02- Sep 03	EOC: SAL	LABOR		
Yr Hours:		1,452.0	1,747.0	1,747.0	1,747.0	0.0	0.0	0.0
Cum Hours:		1,452.0	3,199.0	4,946.0	6,693.0	8,440.0	8,440.0	8,440.0
Yr Total Cost:		45,927	58,163	61,606	65,239	69,106	0	0
Cum Total Cost:		45,927	104,090	165,696	230,935	300,041	300,041	300,041

Resource: Res Dept:	GLMNT 947	GEN LABOR MAINT Overtime:	Class:		EOC:		LABOR	
			Oct 01- Sep 02	Oct 02- Sep 03	EOC: HOU	LABOR		
Yr Hours:		56.7	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		56.7	56.7	56.7	56.7	56.7	56.7	56.7
Yr Total Cost:		1,386	0	0	0	0	0	0
Cum Total Cost:		1,386	1,386	1,386	1,386	1,386	1,386	1,386

Resource: Res Dept:	HRREP 947	HUMAN RESOURCE REP Overtime:	Class:		EOC:		LABOR	
			Oct 01- Sep 02	Oct 02- Sep 03	EOC: SAL	LABOR		
Yr Hours:		290.4	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		290.4	290.4	290.4	290.4	290.4	290.4	290.4
Yr Total Cost:		10,434	0	0	0	0	0	0
Cum Total Cost:		10,434	10,434	10,434	10,434	10,434	10,434	10,434

Resource: Res Dept:	INRREP 947	INFO RECORDS REP Overtime:	Class:		EOC:		LABOR	
			Oct 01- Sep 02	Oct 02- Sep 03	EOC: SAL	LABOR		
Yr Hours:		145.2	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:		145.2	145.2	145.2	145.2	145.2	145.2	145.2
Yr Total Cost:		4,310	0	0	0	0	0	0
Cum Total Cost:		4,310	4,310	4,310	4,310	4,310	4,310	4,310

Fluor Fernald, Inc.

PBS: OHFN05

WBS: 1.1.F.A

CTRL ACCT: FEA1

CHARGE NO: FEA1

COMMENT NO: F-05-001, F-05-006

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Kari Spring

FISCAL YEAR: 01-05

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

Resource:	MAT300	MATERIAL OBJCLASS300		MATERIAL		EOC:					
Res Dept:	947	Class:	Class:	Class:	Class:	Class:	MAT				
Yr Units:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Units:		27,825.0	28,000.0	28,000.0	28,000.0	23,000.0	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:		27,825.0	55,825.0	83,825.0	111,825.0	134,825.0	134,825.0	134,825.0	134,825.0	134,825.0	134,825.0
Cum Total Cost:		27,825	28,756	29,532	30,359	25,636	0	0	0	0	0
		27,825	56,581	86,113	116,473	142,109	142,109	142,109	142,109	142,109	142,109

Resource:	ODCTRVL	TRAVEL RESOURCE		EOC:							
Res Dept:	947	Class:	Class:	Class:	Class:						
Yr Units:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Units:		6,200.0	12,000.0	12,000.0	12,000.0	3,000.0	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:		6,200	18,200.0	30,200.0	42,200.0	45,200.0	45,200.0	45,200.0	45,200.0	45,200.0	45,200.0
Cum Total Cost:		6,200	12,324	12,657	13,011	3,344	0	0	0	0	0
		6,200	18,524	31,181	44,192	47,536	47,536	47,536	47,536	47,536	47,536

Resource:	PJMGR	PROJECT CONTROLS MGR		EOC:							
Res Dept:	947	Class:	Class:	Class:	Class:						
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		170.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:		170.7	170.7	170.7	170.7	170.7	170.7	170.7	170.7	170.7	170.7
Cum Total Cost:		11,169	0	0	0	0	0	0	0	0	0
		11,169	11,169	11,169	11,169	11,169	11,169	11,169	11,169	11,169	11,169

Resource:	PRJMR	PROJECT MANAGER		EOC:							
Res Dept:	947	Class:	Class:	Class:	Class:						
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		4,412.9	3,494.0	3,494.0	3,494.0	2,134.0	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:		393,454	7,906.9	11,400.9	14,894.9	17,028.9	17,028.9	17,028.9	17,028.9	17,028.9	17,028.9
Cum Total Cost:		393,454	327,905	347,317	367,795	237,951	0	0	0	0	0
		393,454	721,359	1,068,676	1,436,471	1,674,422	1,674,422	1,674,422	1,674,422	1,674,422	1,674,422

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05

WBS: 1.1.F.A

CTRL ACCT: FEA1

CHARGE NO: FEA1

COMMENT NO: F-05-001, F-05-006

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Kari Spring

FISCAL YEAR: 01-05

Resource: QACMGR 947 QA MANAGER EOC: SAL Class: LABOR

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Yr	Hours																		
Yr Hours:	44.3	0.0	44.3	0.0	44.3	0.0	44.3	0.0	44.3	0.0	44.3	0.0	44.3	0.0	44.3	0.0	44.3	0.0	44.3	0.0
Cum Hours:	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
Yr Total Cost:	2,384	0	2,384	0	2,384	0	2,384	0	2,384	0	2,384	0	2,384	0	2,384	0	2,384	0	2,384	0
Cum Total Cost:	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384	2,384

Resource: QACTEC 947 QA/QC TECH EOC: SAL Class: LABOR

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Yr	Hours																		
Yr Hours:	1,016.4	349.4	349.4	349.4	1,715.2	349.4	2,064.6	349.4	2,414.0	349.4	2,414.0	0.0	2,414.0	0.0	2,414.0	0.0	2,414.0	0.0	2,414.0	0.0
Cum Hours:	1,016.4	1,016.4	1,365.8	1,715.2	1,715.2	1,715.2	2,064.6	2,064.6	2,414.0	2,414.0	2,414.0	2,414.0	2,414.0	2,414.0	2,414.0	2,414.0	2,414.0	2,414.0	2,414.0	2,414.0
Yr Total Cost:	31,386	11,357	42,743	54,772	54,772	12,029	12,738	13,493	81,004	81,004	81,004	0	81,004	0	81,004	0	81,004	0	81,004	0
Cum Total Cost:	31,386	62,772	104,515	159,287	159,287	171,316	184,054	197,547	278,551	278,551	278,551	278,551	278,551	278,551	278,551	278,551	278,551	278,551	278,551	278,551

Resource: RADENG 947 RAD ENGINEER EOC: SAL Class: LABOR

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours
Yr Hours:	5,935.0	3,494.0	3,494.0	3,494.0	3,494.0	3,494.0	3,494.0	3,494.0	2,408.0	2,408.0	0.0	18,825.0	0.0	18,825.0	0.0	18,825.0	0.0	18,825.0	0.0	
Cum Hours:	5,935.0	9,429.0	9,429.0	12,923.0	12,923.0	12,923.0	16,417.0	16,417.0	18,825.0	18,825.0	18,825.0	18,825.0	18,825.0	18,825.0	18,825.0	18,825.0	18,825.0	18,825.0	18,825.0	18,825.0
Yr Total Cost:	280,132	173,588	453,720	637,585	637,585	183,865	194,705	142,142	974,432	974,432	974,432	974,432	974,432	974,432	974,432	974,432	974,432	974,432	974,432	974,432
Cum Total Cost:	280,132	727,308	1,181,028	1,818,613	1,818,613	2,012,478	2,207,183	2,349,325	3,323,757	3,323,757	3,323,757	3,323,757	3,323,757	3,323,757	3,323,757	3,323,757	3,323,757	3,323,757	3,323,757	3,323,757

Resource: RADMGR 947 RAD SUPERVISOR/MGR EOC: SAL Class: LABOR

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours	Yr	Hours
Yr Hours:	1,452.0	3,199.0	3,199.0	1,747.0	1,747.0	4,946.0	6,693.0	7,210.5	517.5	517.5	0.0	7,210.5	0.0	7,210.5	0.0	7,210.5	0.0	7,210.5	0.0	
Cum Hours:	1,452.0	4,651.0	7,850.0	9,597.0	11,344.0	16,290.0	22,983.0	29,193.5	34,371.0	34,888.5	34,888.5	42,099.0	42,099.0	42,099.0	42,099.0	42,099.0	42,099.0	42,099.0	42,099.0	42,099.0
Yr Total Cost:	86,844	109,982	196,826	116,493	116,493	38,709	52,361	57,319	38,709	38,709	0	475,389	0	475,389	0	475,389	0	475,389	0	
Cum Total Cost:	86,844	196,826	393,652	510,145	626,638	665,347	722,708	780,027	818,736	857,445	857,445	1,332,834	1,332,834	1,332,834	1,332,834	1,332,834	1,332,834	1,332,834	1,332,834	1,332,834

Fluor Fernald, Inc.

PBS: OHFN05

DATE: 9/8/01

WBS: 1.1.F.A

ESTIMATE SUPPORT WORKSHEET

PROJECT MGR: Mark Cherry

CTRL ACCT: FEAA

CAM: Mark Cherry

CHARGE NO: FEAA1

FOR ACTIVITY BASED ESTIMATING

PREPARED BY: Kari Spring

COMMENT NO: F-05-001, F-05-006

(1 FTE EQUALS 1747 HOURS)

FISCAL YEAR: 01-05

Resource:	S&HENG	SAFETY ENGINEER	LABOR																				
Res Dept:	947	Overtime:	Class:																				
			Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-				
			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	
Yr Hours:			1,747.0	1,747.0	1,747.0	1,747.0	1,747.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:			3,925.0	5,672.0	7,419.0	9,166.0	108,608	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yr Total Cost:			91,410	96,821	102,530	108,608	507,636	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:			199,678	296,499	399,029	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636	507,636

Resource:	SECRET	SECRETARIES	LABOR																				
Res Dept:	947	Overtime:	Class:																				
			Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-				
			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	
Yr Hours:			1,452.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:			1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0
Yr Total Cost:			32,423	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:			32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423	32,423

Resource:	SERVSUB	SUBS	SUBCONTRACTORS																			
Res Dept:	947	Overtime:	Class:																			
			Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-			
			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Units:			10,000.0	10,000.0	10,000.0	10,000.0	5,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:			18,340.0	28,340.0	38,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0	43,340.0
Yr Total Cost:			10,270	10,547	10,843	10,843	5,573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:			18,610	29,157	40,000	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573	45,573

Resource:	TPSMGR	TECH/PROG SUPT MGR	LABOR																			
Res Dept:	947	Overtime:	Class:																			
			Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-			
			Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Hours:			3,049.2	3,494.0	3,494.0	3,494.0	2,264.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:			3,049.2	6,543.2	10,037.2	13,531.2	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7	15,795.7
Yr Total Cost:			190,392	229,637	243,231	257,572	176,831	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:			190,392	420,029	663,260	920,831	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662	1,097,662

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05

WBS: 1.1.F.A

CTRL ACCT: FEAA

CHARGE NO: FEAA1

COMMENT NO: F-05-001, F-05-006

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Kari Spring

FISCAL YEAR: 01-05

Resource:	TPSREP	TECH/PROG SUPT REP	Class:	EOC:		LABOR	
				OverTime:	SAL	OverTime:	SAL
947							
Yr Hours:							
Cum Hours:							
Yr Total Cost:							
Cum Total Cost:							

Resource:	WSTENG	WASTE ENGINEER	Class:	EOC:		LABOR	
				OverTime:	SAL	OverTime:	SAL
947							
Yr Hours:							
Cum Hours:							
Yr Total Cost:							
Cum Total Cost:							

Resource:	WSTENG	WASTE ENGINEER	Class:	EOC:		LABOR	
				OverTime:	SAL	OverTime:	SAL
947							
Yr Hours:							
Cum Hours:							
Yr Total Cost:							
Cum Total Cost:							

CAM *Mark Cherry* CONTROL TEAM *Kari Spring*

SECTION 1

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: WPRAP Management		PBS Number: 05		Total Baseline Dollars (Minimum Case):		\$8,207,573				
Evaluator: Dalga		Date: April 20, 2001		WBS Number: 1.1.F.A						
CAM/C. Fike		Date: April 20, 2001		Control Account Number: FEAA						
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Waste Processing	Minor delays due to utility shortfalls, groundwater intrusion, funding shortfall and/or processing delays	2 month schedule extension	Internal	\$400,000.00	2	70	4	\$280,000.00	3	Reduce Risk
Waste Shipping	Major delays due to railcar leaking, railcar accident, etc	6 month schedule extension	Internal	\$1,200,000.00	4	5	1	\$60,000.00	3	Reduce Risk
Waste Processing	Higher density and optimum moisture waste causes an additional 100,000 tons	1-year schedule extension to process 100,000 additional tons	Internal	\$2,400,000.00	5	95	5	\$2,280,000.00	1-2	Accept
Waste Processing	Higher density and optimum moisture waste causes an additional 100,000 tons	9-month schedule extension to process 80,000 additional tons	Internal	\$1,800,000.00	5	70	4	\$1,260,000.00	1-1	Reduce/Mitigate
Waste Processing	Higher density and optimum moisture waste causes an additional 80,000 tons	9-month schedule extension to process 80,000 additional tons	Internal	\$1,800,000.00	5	60	3	\$360,000.00	5	Reduce/Mitigate
Subsoils Excavation	Delays due to sequencing changes in subsoil excavation and dryer utilization	3 month schedule extension	Internal	\$600,000.00	3	60	4	\$360,000.00	5	Reduce/Mitigate
Subsoils Excavation	Additional 1 ft of pit surface soils goes to Ecare	Processing additional 50,000 tons of soils adds 6 months of operation	Internal	\$1,200,000.00	4	50	3	\$600,000.00	7	Accept
Waste Processing	Additional controls required for addressing radiological airborne levels	3 month schedule extension and cost increase	Internal	\$600,000.00	3	25	2	\$150,000.00	3	Accept

Risk/Opportunity Identification and Analysis Form

Project: WPRAP Management		PBS Number: 05		Total Baseline Dollars (Minimum Case):		\$8,207,573	
Evaluator: Dalga		Date: April 20, 2001		WBS Number: 1.1.F.A			
CAM/C. File		Date: April 20, 2001		Control Account Number: FEAA			
Project Task		Risk and/or Opportunity		Potential Impact		Internal Or External Driver	
				Impact Cost (Maximum Case)		Risk Impact Level	
				Risk Probability %		Risk Probability Level	
				Probable Cost (Likeliest Case)		Risk Critical Value	
				Risk Handling Strategy			
				Total:		\$8,200,000.00	
				Total:		\$4,030,000.00	

Waste Shipping	Major delays due Ecare shutdown	6 month schedule extension	External	\$1,200,000.00	4	10	2	\$120,000.00	5
Waste Processing	Additional tonnage due to Th-230 constraints at Envirocare	Additional 160,000 tons to be loaded, 15 month extension	External	\$3,000,000.00	5	70	4	\$2,100,000.00	11

**WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER**

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE OF CONTRACT 12/01/2000	
3. IDENTIFICATION NUMBER DE-AC24-01OH20115		4. INDEX LINE NO. 43	
5. WBS ELEMENT CODE 1.1.F.B		6. WBS ELEMENT TITLE LOAD OUT OPERATIONS	
7. APPROVED CP NO. NEW PER CP# FY01-0115-0005-00		8. DATE OF CHANGES 12/01/2000	
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA		10. BUDGET AND REPORTING NUMBER EW05H3050	
11. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Materials ODC's Subcontracts</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>In accordance with the Record of Decision for WPRAP and work defined in Subcontract #98SC000001, IT Corp., the Remedial Action Subcontractor, will perform remedial action for the remediation of the Waste Pits. Fluor Fernald will provide oversight of the subcontract, including the use of FAT&LC and GCBTC unions as dictated by their respective labor agreements to excavate, treat (as necessary), and load out of waste pits.</p> <p>Activities included in this element are defined in the following Work Scope Definition Work Packages:</p> <p>FCBB3 IT Subcontract FCBB5 Fluor Fernald Operations Staff FCBBX Fluor Fernald Operations Labor and Maintenance FCBBC Waste Pit Area Characterization</p> <p><u>c. SCOPE OF WORK:</u></p> <p>The selected remedy presented in the OU1 ROD consists of the following activities:</p> <p>Administrative support as required to facilitate IT Corp., under Subcontract #98SC000001, integration with site requirements Training of FAT&LC workforce</p>			

U.S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE OF CONTRACT 12/01/2000
3. IDENTIFICATION NUMBER DE-AC24-01OH20115	4. INDEX LINE NO. 43
5. WBS ELEMENT CODE 1.1.F.B	6. WBS ELEMENT TITLE LOAD OUT OPERATIONS
7. APPROVED CP NO. NEW PER CP# FY01-0115-0005-00	8. DATE OF CHANGES 12/01/2000
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA	10. BUDGET AND REPORTING NUMBER EW05H3050
<p>11. ELEMENT TASK DESCRIPTION</p> <p>Training to support site requirement for integrated cross training of FAT&LC workforce FAT&LC labor under IT Corp direction per Subcontract #98SC000001 Waste excavation, material handling, waste processing, and waste loadout into railcars for shipping Provide for receipt of containerized waste from other projects Directed excavation of contaminated subsoils below the pits destined for Envirocare D&D of above grade IT facilities Management, performance, and oversight of work programs to ensure proper health and safety, radiological protection, quality assurance, and environmental compliance</p> <p>Work scope is further defined in the following Work scope Definitions Work Packages:</p> <p>FCBB3 IT Subcontract FCBB5 Fluor Fernald Operations Staff FCBBX Fluor Fernald Operations Labor and Maintenance FCBBC Waste Pit Area Characterization</p>	

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05
--	--

12. TASK IDENTIFICATION (CONTROL ACCOUNT) FCBB	13. TASK DESCRIPTION (ONE LINE) WASTE PIT OPERATIONS
--	--

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Subcontractors
ODCs
Materials

b. TECHNICAL CONTENT:

Regulatory Drivers

Record of Decision (ROD) for the Waste Pits Remedial Action Project (WPRAP)
Site Agreement under CERCLA (Amended Consent Agreement)
ARARs as referenced in the ROD
OSHA Requirements

In accordance with the Record of Decision for WPRAP and work defined in Subcontract #98SC000001, IT Corporation, the Remedial Action Subcontractor will perform remedial design and remedial action for the remediation of the WPRAP Waste Pits.

Work scope and exclusions are further defined in the following Work Scope Definition Work Packages:

FCBB3 IT Subcontract
FCBB5 Fluor Fernald Operations Staff
FCBBX Fluor Fernald Operations Labor and Maintenance
FCBBC Waste Pit Area Characterization

c. SCOPE OF WORK:

Project Manager <i>Mark O...</i>	Control Account Manager <i>Mark O...</i>	Control Team Manager <i>Kate Spring</i>
-------------------------------------	---	--

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) FCBB	13. TASK DESCRIPTION (ONE LINE) WASTE PIT OPERATIONS		

14. ELEMENT TASK DESCRIPTION

The scope of work for the Waste Pits Operations control account includes:

- Administrative support as needed to facilitate IT Corporation, under Subcontract #98SC000001, integration with site requirements
- Subcontract #98SC000001
- Training of the FAT&LC work force
- Training to support site requirement for integrated cross training of FAT&LC workforce
- FAT&LC labor under IT Corporation direction per Subcontract #98SC000001
- Waste excavation, material handling, waste processing, and waste load out into railcars for shipping
- Provide for receipt of waste from other projects
- Directed excavation of soils below waste content of pits
- D&D of above grade IT facilities
- Characterization relative to waste pit excavation
- Sampling and analysis of the air, pit waste, and wastewater
- Management and oversight of work programs to ensure proper health and safety, radiological protection, quality assurance, and environmental compliance

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements:

- 1.1.F.A Management
- 1.1.F.C Shipping and Disposal Operations
- 1.1.F.D Non-Typical Waste Disposition

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 09/05
--	---

12. TASK IDENTIFICATION (WORK PACKAGE) FCBB3	13. TASK DESCRIPTION (ONE LINE) IT SUBCONTRACT
--	--

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Subcontractors

b. TECHNICAL CONTENT:

IT Corporation is responsible for the planning, design, construction, operation, maintenance, and D&D of facilities necessary to perform the waste pits remediation. This scope covers the contractual requirements for IT Corporation, the Remedial Action Subcontractor through Subcontract #98SC000001. IT will utilize Greater Cincinnati Building and Construction Trades Council (GCBCTC) and Fernald Atomic Trades & Labor Council (FAT&LC) in performance of this work.

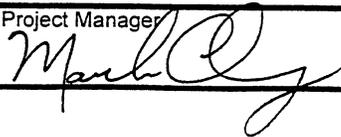
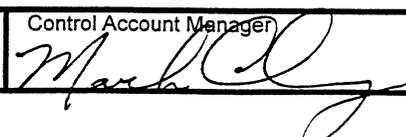
The activities associated with this work package are:

Excavation/Processing/Loadout of materials
 D&D of the above-grade IT facilities
 Medical monitoring
 Sampling and Analysis
 Construction and Operation of a pugmill ventilation system
 Construction and Operation of a facility for processing/blending of Enriched Restricted Nuclear Materials

c. SCOPE OF WORK:

Excavation/Processing/Loadout of Materials

Waste Pit Excavation includes the excavation, grading, and blending of waste materials as well as management of excavation water, within the WPRAP waste pits. All excavation equipment to be provided by IT Corporation. All union labor

Project Manager 	Control Account Manager 	Control Team Manager 
---	--	---

WORK SCOPE DEFINITION (Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 2
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 09/05
--	---

12. TASK IDENTIFICATION (WORK PACKAGE) FCBB3	13. TASK DESCRIPTION (ONE LINE) IT SUBCONTRACT
--	--

14. ELEMENT TASK DESCRIPTION

will be provided through GCBCTC and supervised by IT Corp.

Processing of waste and soils to attain the Waste Acceptance Criteria (WAC), for Envirocare of Utah to include: size reduction, drying and blending. Processing will include management of wastewater/stormwater and off-gas treatment. IT Corp. will provide all necessary processing and material handling equipment, as well as railcar lids and liners. All union labor will be provided by FAT&LC and technically directed by IT Corp, and supervised by Fluor Fernald supervisors. The scope for the FAT&LC labor can be found in work package FCBBX. The scope for Fluor Fernald supervisors can be found in work package FCBB5.

Load Out to include: placement of liners, load out of waste into railcars, placement of lids, operation of railcar movers and decontamination of railcar before release to Shipping and Disposal Operations for shipment to disposal facility. All union labor will be provided by FAT&LC and technically directed by IT Corp. The scope for this labor can be found in work package FCBBX.

Estimated waste, in tons, to be processed by IT Corporation is listed below:

FY01	95,919
FY02	136,000
FY03	131,000
FY04	131,000
FY05	46,660

Sampling and Analysis

IT also collects and analyzes samples of the air, feed material, processed pit wastes and wastewater. Samples of the feed material are collected and analyzed for the purpose of controlling Thorium 230 activity. Processed and blended waste are collected and analyzed to ensure compliance with the Envirocare WAC for radiological, chemical, and physical parameters. These samples are collected in the RLB prior to filling railcars. In order to comply with the Envirocare requirements, the laboratory performing chemical analysis is certified by the state of Utah.

Additionally, IT collects and analyzes samples of wastewater and stormwater for

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 3
3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 09/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FCBB3	13. TASK DESCRIPTION (ONE LINE) IT SUBCONTRACT		
14. ELEMENT TASK DESCRIPTION			
<p>compliance with contract requirements prior to discharging to the Bio-Surge Lagoon (BSL). IT uses both onsite and offsite laboratories to perform analyses.</p> <p>D&D of Above-grade IT Facilities</p> <p>IT is responsible for the decontamination and dismantlement of the above-grade portion of its waste remediation facilities, including the decontamination of equipment and buildings, for the lump sum price identified in the subcontract. According to IT's Workforce Utilization Plan, D&D activities will be performed using a combination of FAT&LC personnel and GCBCTC personnel. The cost for the GCBCTC personnel is a part of IT's lump sum price. The scope for FAT&LC labor can be found in work package FCBBX.</p> <p>Medical Monitoring</p> <p>IT will be responsible, as required by the subcontract, for implementing and maintaining an ongoing occupational enhanced air quality monitoring program. A portion of this program shall include monitoring for arsenic, asbestos, beryllium, dust, vanadium, and silica, which will be paid for by Fluor Fernald. These activities will include breathing zone and area air quality sampling and analysis for arsenic, asbestos, beryllium, dust, vanadium and silica. IT is responsible for maintaining and operating the equipment for this program. Medical monitoring shall be included in this program and IT is responsible for providing a list of workers, by job classification, who must participate in medical monitoring. All other costs associated with their program will be paid for by IT.</p> <p>Construction and Operation of Pugmill Ventilation System</p> <p>IT will be responsible for the planning, design, construction, operation and maintenance, and D&D of a pugmill ventilation system which will create a high draw on the product bin to collect any steam or dust generated. The system will process the gas stream through a Gas Cleaning System with the highest removal efficiency, using a Venturi Scrubber, a Wet Electrostatic Precipitator (WESP), and High Efficiency Particulate Air (HEPA) Filtration. This system uses high flow to ensure the capture of the gas stream emerging from the product bin, allowing for the open operation of the bin and pugmill area.</p>			

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 4
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 09/05
--	---

12. TASK IDENTIFICATION (WORK PACKAGE) FCBB3	13. TASK DESCRIPTION (ONE LINE) IT SUBCONTRACT
--	--

14. ELEMENT TASK DESCRIPTION

Pit 4 Enhanced Excavation

IT will be required to perform the following types of activities: documentation changes and development, equipment procurement; transfer bin construction; screening, testing; SSR, operations and maintenance.

Pit 4 will be excavated by IT implementing a methodical/surgical approach to the excavation of Pit 4 in order to minimize the potential for the oxidation of thorium metal fines, if encountered. This approach requires additional equipment, numerous document changes, transfer bin construction, screening and a dedicated crew.

The Pit 4 surfaces will be topographically surveyed using a grid system for characterization and excavation. This in-situ characterization will be performed in an attempt to discern any appreciable quantities of thorium metal or other potentially pyrophoric material. The excavation lifts will be small enough to allow for visual inspection and radiological measurements, as the work progresses. Material that is considered high risk and/or non-typical will be segregated with non-typical wastes managed consistent with existing approved plans.

IT will be required to perform the following types of activities: documentation changes and development, equipment procurement; transfer bin construction; screening, testing; SSR, operations and maintenance.

Enriched Restricted Nuclear Materials

Consistent with the site-wide goal of integrating efforts associated with the off-site disposal of FEMP materials at Envirocare, a set campaign of drums of enriched restricted nuclear materials (ERNM) will be managed through the IT facility for shipment in railcars to Envirocare. Specifically, for this effort a campaign of approximately 2,400 drums will be transferred to the Waste Pits Project (i.e., IT) by the Nuclear Material Disposition (NMD) Project.

IT will construct and operate a downblending facility (i.e., a sprung structure) to ensure containment and control of the process. This structure, to be constructed adjacent to Pit 6, will be equipped to facilitate the blending and will be large enough to stage various pit waste working piles and containers.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 5
3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 09/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FCBB3	13. TASK DESCRIPTION (ONE LINE) IT SUBCONTRACT		

14. ELEMENT TASK DESCRIPTION

This facility will be used to open the containers of ERNM, dump the contents, mix or blend the ENRM with pit waste, crush the drums, etc. In order to assure proper containment of airborne, a localized airborne particulate capture ventilation system will be installed.

d. WORK SPECIFICALLY EXCLUDED:

Excluded are any resources necessary to excavate, transport, and dispose of soils below the waste pits that meet the OSDF WAC. These resources are found in PBS06.

Excluded is work specifically defined in support of the following PBS05 WBS elements and work packages within Control Account FCBB:

1.1.F.A - Waste Pits Project Management

1.1.F.C - Shipping and Disposal Operations

1.1.F.D - Non-Typical Waste

FCBB5 - Fluor Fernald Operations Staff

FCBBX - Fluor Fernald Operation Labor and Maintenance

FCBBC - Waste Pit Area Characterization

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05
--	--

12. TASK IDENTIFICATION (WORK PACKAGE) FCBB5	13. TASK DESCRIPTION (ONE LINE) FLUOR FERNALD OPERATIONS STAFF
--	--

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Materials
Subcontractors
ODCs

b. TECHNICAL CONTENT:

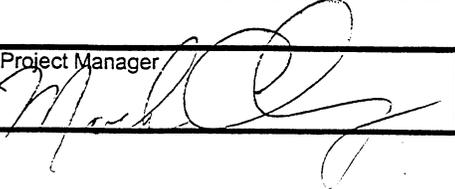
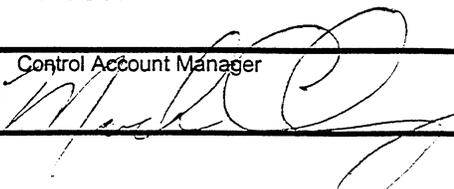
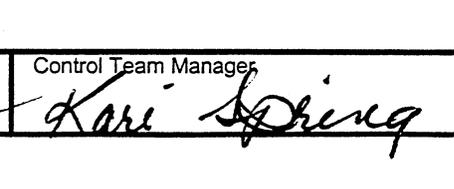
Waste Pit Operations Oversight is the scope for Fluor Fernald (FF) oversight of the IT Corporation subcontract.

The activities associated with this work package are:

Oversight of Waste Pit Excavation, including waste pit subsurface soils
Oversight of Waste Processing and WAC attainment
Oversight of Loadout and Operations
Implementation of Radiological Control Programs
Transfer of Materials from other FEMP projects to the IT Facility from SP7
Supervision of FAT&LC personnel under the technical direction of IT
Oversight of IT Facility D&D

c. SCOPE OF WORK:

Fluor Fernald Oversight to include all resources required for oversight of the following subcontractor operation activities to ensure IT is managing the work in accordance with the subcontract.

Project Manager 	Control Account Manager 	Control Team Manager 
---	---	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FCBB5	13. TASK DESCRIPTION (ONE LINE) FLUOR FERNALD OPERATIONS STAFF		

14. ELEMENT TASK DESCRIPTION

This includes oversight of all subcontractor activities involved with:

Waste Pit Excavation, (including subsoils destined for Envirocare)
 Processing of waste and soils to attain WAC
 Loadout of waste
 Operation of the facility
 IT Facility D&D
 Sampling and Analysis

Fluor Fernald is responsible for the implementation of the radiological control program. Fluor Fernald supplies all labor, materials, equipment and analysis to perform this function.

Fluor Fernald is responsible for providing direct supervision and oversight of the FAT&LC workforce under the technical direction of IT.

Fluor Fernald is responsible for transfer of material from other FEMP projects to the IT Facility from Soil Pile 7.

Provides scope for travel required in relation to this work package.

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements and work packages within Control Account FCBB:

- 1.1.F.A - Waste Pits Project Management
- 1.1.F.C - Shipping and Disposal Operations
- 1.1.F.D - Non-Typical Waste
- FCBB3 - IT Subcontract
- FCBBX - Fluor Fernald Operations Labor and Maintenance
- FCBEC - Waste Pit Area Characterization

Excluded beginning in FY02 is winter protective gear for Fluor Fernald oversight personnel, this is provided by PBS01.

Excluded beginning in FY02 is maintenance of government owned vehicles, this is

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 3
3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 9/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FCBB5	13. TASK DESCRIPTION (ONE LINE) FLUOR FERNALD OPERATIONS STAFF		
14. ELEMENT TASK DESCRIPTION provided by PBS01. Excluded is maintenance of Soil Pile #7. Excluded is the cost for transfer of blended enriched nuclear material inventories to the IT facility.			

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 6/01 - 2/05
--	---

12. TASK IDENTIFICATION (WORK PACKAGE) FCBBC	13. TASK DESCRIPTION (ONE LINE) WASTE PIT AREA CHARACTERIZATION
--	---

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts

b. TECHNICAL CONTENT:

Fluor Fernald is responsible for taking samples in the Burn Pit Area to determine any potential RCRA characteristics of the material. Fluor Fernald will also characterize the soils below the waste pits, the Burn Pit and the Clearwell, for use in determining the depth of soil excavation. IT is responsible for removing, at Fluor Fernald's direction, all subsoils that exceed the OSDF WAC (the scope of which is covered under FCBB3). Real-time scanning will be conducted after IT excavation activities are complete in order to determine that all soils that exceed the OSDF WAC have been removed.

The activities associated with this work package are:

RCRA Characterization of Burn Pits
Characterization of Pit 1, 2, and 3 Subsoils
Characterization of Pit 4, 5, and 6 Subsoils
Characterization of Burn Pit and Clearwell Subsoils
Real-time Scanning

c. SCOPE OF WORK:

RCRA Characterization of the Burn Pit includes: development, submittal and

Project Manager <i>[Signature]</i>	Control Account Manager <i>[Signature]</i>	Control Team Manager <i>[Signature]</i>
---------------------------------------	---	--

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 6/01 - 2/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FCBBC	13. TASK DESCRIPTION (ONE LINE) WASTE PIT AREA CHARACTERIZATION		

14. ELEMENT TASK DESCRIPTION

obtaining EPA approval of the sampling and analysis plan, soil borings taken in and around the Burn Pit area, samples from the borings sent to lab for analysis, and reviewing of the data.

Characterization of Pit 1,2,and 3 subsoils includes: borings taken from the soil beneath each of the pits and the berms around each pit, field screening, samples sent to on-site and off-site lab for analysis, and data validation efforts.

Characterization of Pit 4,5,6, Burn Pit and Clearwell subsoils includes: borings taken from the soil beneath each of the pits, Clearwell and the berms around each pit, field screening, samples sent to on-site and off-site lab for analysis, and data validation efforts.

Real-time scanning includes: real-time scanning of the surface with the RTRAK after IT soils excavation activities have been completed.

d. WORK SPECIFICALLY EXCLUDED:

- Excluded is work specifically defined in support of the following PBS05 WBS elements and work packages within Control Account FCBB:
- 1.1.F.A Management
 - 1.1.F.C Shipping and Disposal Operations
 - 1.1.F.D Non-Typical Waste
 - FCBB3 IT Subcontract
 - FCBB5 Fluor Fernald Operations Staff
 - FCBBX Fluor Fernald Operations Labor and Maintenance

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 8/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FCBBX	13. TASK DESCRIPTION (ONE LINE) FLUOR FERNALD OPERATIONS LABOR AND MAINTENANCE		
14. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>IT Corporation is responsible for assigning and directing the FAT&LC labor for the performance of subcontract #98SC000001. If during the performance period of the contract, the actual FAT&LC labor requirements are greater than the defined hours per the Workforce Utilization Plan, IT Corporation shall be back charged for all additional costs incurred.</p> <p>The activities associated with this work package are:</p> <p>Railcar Load Out Blending/Segregation Operation Dryer Operations Maintenance Operations Support Water Maintenance Sampling efforts within Characterization of Non-Typical Waste IT Facility D&D Processing of Enriched Restricted Nuclear Materials (ERNM)</p> <p><u>c. SCOPE OF WORK:</u></p> <p>Railcar Load Out includes; Operation of the dust suppressant system, operation of the railcar bridge crane, operations of the rail scale, removal of rail car lids, install liners, load rail railcars with material meeting WAC and weight</p>			
Project Manager <i>Mark [Signature]</i>	Control Account Manager <i>Mark [Signature]</i>	Control Team Manager <i>Kari [Signature]</i>	

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 8/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FCBBX	13. TASK DESCRIPTION (ONE LINE) FLUOR FERNALD OPERATIONS LABOR AND MAINTENANCE		

14. ELEMENT TASK DESCRIPTION

restrictions, re-install lids, decontaminate and move railcars.

Blending/Segregation Operation includes; Perform screening, shredding, blending, of waste received from pit excavation, transfer of material to and from shredder and or dryer, and delivery to railcar load out bins.

Dryer Operation includes; Operating the thermal dryer system including dryer operations, feed systems, air pollution control systems, and support/utility systems.

Maintenance includes; Preventative and corrective maintenance services on all equipment and facilities, except for in-pit line maintenance of excavation equipment.

Operations Support includes; Support to operations via fixed decontamination stations, issue/maintain PPE, service facilities, provide receiving and warehousing operations, operation of forklift trucks and personnel vehicles, cleaning of office and/or trailers, clean trash pickup, escorting Rumpke trucks, grass mowing, and operate undergarment and respirator wash facilities.

Water Maintenance includes; Operate Clearwell and storm water pumping systems, operate in-pit dewatering systems, inspect Clearwell, operate containment dewatering systems, and operate water treatment plant prior to discharge of water to the Bio Surge Lagoon (BSL)

IT Facility D&D includes; laundry operations, operation of the respirator wash facility, receipt, storage and distribution from the warehouse, forklift operations, loading and unloading of vehicles, water pumping and treatment and porter support.

Processing of ERNM includes; performance of activities associated with downblending of enriches restricted nuclear materials, operation of heavy equipment, receiving of drums, operation of forklift, unlidding drums, sampling material, running drum crusher and other equipment such as sumps and/or portable ventilation equipment.

Also includes the scope for the sampling effort within the characterization of

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 3
3. WBS ELEMENT CODE 1.1.F.B	4. WBS ELEMENT TITLE/NAME LOAD OUT OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 8/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FCBBX	13. TASK DESCRIPTION (ONE LINE) FLUOR FERNALD OPERATIONS LABOR AND MAINTENANCE		

14. ELEMENT TASK DESCRIPTION

non-typical waste (i.e. a bin failure requiring up to 30 samples).

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements and work packages within Control Account FCBB:

- 1.1.F.A Management
- 1.1.F.C Shipping and Disposal Operations
- 1.1.F.D Non-Typical Waste
- FCBB3 IT Subcontract
- FCBB5 Fluor Fernald Operations Staff
- FCBBC Waste Pit Area Characterization

SECTION 2

1.0 NARRATIVE

1. PROJECT TITLE: WASTE PITS PROJECT	2. DATE: 09/10/01	3. PBS#: 05
4. WBS ELEMENT CODE: 1.1.F.B.	5. WBS ELEMENT TITLE: WASTE PITS OPERATIONS	
6. CAM NAME/ PHONE: MARK CHERRY	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9. CONTROL ACCOUNT: FCBB	

SECTION 2: FCBB – WASTE PIT OPERATIONS

1.0 NARRATIVE

1.1 OVERVIEW

Waste Pit Operations encompasses the activities and resources associated with the excavation of the material within the OU1 waste pits, as well as those subsoils destined for disposal at Envirocare, the processing of those materials (e.g., pretreatment, drying, etc.), and the loadout of the materials in railcars for disposal at Envirocare. In addition, Waste Pit Operations includes the processing of wastes from other FEMP projects which are similarly destined for disposal at Envirocare. Waste Pit Operations also includes the activities and resources associated with the decontamination and dismantlement (D&D) of the above-grade portion of the OU1 waste processing facilities. Finally, Waste Pit Operations includes characterization activities associated with Burn Pit RCRA issues, and with the excavation of the soils beneath the waste pits. The performance and management of this scope of work, as well as the associated oversight, is to be undertaken as follows:

1.1.1 FCBB3 - IT Subcontract

Under subcontract with Fluor Fernald, IT Corporation is responsible for the planning, design, construction, operation, maintenance, and D&D of facilities necessary to perform the waste pits remediation. In performance of this work, IT uses Greater Cincinnati Building and Construction Trades Council (GCBCTC) personnel for waste pit excavation and waste handling, and Fernald Atomic Trades & Labor Council (FAT&LC) for waste processing and facility operations.

1.1.2 FCBBX - Fluor Fernald Operations Labor and Maintenance

As identified by IT, through its Workforce Utilization Plan, FAT&LC personnel are responsible for the performance of the operations and maintenance work associated with waste processing and loadout. Specifically, activities associated with FAT&LC labor for Waste Pit Operations include: Railcar Loadout, Blending and Segregation Operation, Dryer Operations, Maintenance, Operations Support and Water Maintenance.

1.1.3 FCBB5 - Fluor Fernald Operations Staff

Fluor Fernald is responsible for oversight of the IT subcontract. Oversight activities include oversight of Waste Pit Excavation, including waste pit subsurface soils, oversight of Waste Acceptance Criteria (WAC) attainment, and oversight of loadout. This includes both Fluor Fernald supervision of the FAT&LC workforce, and oversight activities to ensure compliance with the subcontract. Fluor Fernald operations staff also includes the Fluor Fernald resources to support implementation of the radiological control programs, and to coordinate the delivery of wastes from other FEMP projects to IT.

1.1.4 FCBBC - Waste Pit Area Characterization

There are two areas of characterization relative to the waste pit excavation, for which Fluor Fernald Waste Pits Remedial Action Project (WPRAP) personnel will have responsibility. The first, concerns the characterization of an area of the Burn Pit berm to assess the potential for RCRA listed materials to be present in the area. The second, is the characterization of the soils below the pits, as necessary to guide the excavation of these soils.

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

1.2.1.1 FCBB3 - IT Subcontract

1. The basis for the work to be performed by IT will be as detailed in Subcontract #98SC000001, dated October 20, 1997, as modified through Modification 058, dated March 20, 2001.
2. The quantity of as-loaded waste materials (i.e., pit materials, waste pit subsoils, and/or soils from other FEMP projects) destined for disposal at Envirocare will not exceed 540,579 tons.
3. IT will process any additional quantities at a rate consistent with the current unit price in the Subcontract. Specifically, any additional quantities processed within the current Subcontract performance period will be processed by IT at the rate identified in the Subcontract, while additional quantities processed beyond the current performance period, will be processed by IT at a rate which reflects an increase consistent with previous yearly increases.
4. Out of the 540,579 total tonnage identified above, the quantity of material received from other FEMP projects will not exceed 40,440 tons. This includes materials from Waste Generator Services (WGS), the ~~Uranium Waste Disposition (UWD)~~ Nuclear Materials Disposition (NMD) project, and Soils and Disposal Facility Project (SDFP) materials.

R1-
F05-
009

R1-
F05-
009

5. Any material received from other FEMP projects will be received by IT in bulk; ~~IT will not be required to manage any materials from other FEMP projects, through the management (e.g., dumping) of containers.~~ (i.e., IT will not be required to dump containers), unless specifically identified otherwise in this plan.
6. The material from other FEMP projects, as delivered by those projects, will meet the Envirocare WAC, for radiological and chemical constituent levels, as well as size constraints (except for the processing of enriched restricted nuclear materials [ERNM] by IT).
7. The quantity of as-loaded soils from beneath the waste pits, destined for disposal at Envirocare, will not exceed 79,458 tons (which is a part of the 540,579 total tonnage identified above).
8. Adequate funding is provided to the project, to support yearly planned processing levels identified in the IT Subcontract (within a range of + or - 10% of the planned level).
9. Actual radiological and chemical constituent levels of materials excavated from the waste pits by IT, will not differ from those levels expected (as identified through the OU1 RI program and other data supplied to IT through the subcontract), such that additional blending, processing, or drying is needed to meet the Envirocare WAC and Department of Transportation (DOT) LSA-1 requirements.
10. The Envirocare WAC will not change throughout the duration of the project, such that more stringent acceptance criteria (e.g., lower constituent levels, tighter moisture requirements, etc.) are imposed on the project.
11. DOT requirements will not change throughout the duration of the project, such that the planned bulk shipment of the above materials is altered (i.e., made more stringent).
12. Operations will be conducted, through the life of the project, on a 3 eight-hour shift per day basis, Monday through Friday, with most major maintenance activities occurring on the weekend.
13. Loadout of product by IT will be limited to 136,000 tons per year, with a limit of 131,000 tons in FY2003 and FY2004. The current fleet of 170 DOE-provided railcars will be available to support this yearly production rate.
14. Excavation will be performed using the methodologies and approach defined in the approved WPRAP Excavation Plan.

15. Directed excavation of soil beneath the pits will be performed as follows:
 - (A) Pits 1,2, and 3 will occur in FY2004.
 - (B) Remainder of pits will occur in FY2005.
16. IT will excavate only those soils below the waste pits destined for disposal at Envirocare; IT will not excavate any pit subsoils destined for the On-Site Disposal Facility (OSDF).
17. Excavation activities will occur four days a week, Monday through Thursday, until all materials (destined for disposal at Envirocare) are removed from the waste pit area.
18. IT cannot excavate the Burn Pit until Fluor Fernald has undertaken a sampling and analysis effort to verify that there is no RCRA listed waste issue in the Burn Pit.
19. D&D by IT, of its above-grade facilities, will generate 65,500 cubic feet of debris, 25% of which will go into the OSDF and 75% of which will go to Envirocare for disposal, for which IT will be backcharged.
20. D&D debris destined for disposal at Envirocare cannot be shipped via the gondola railcars currently being used. The actual type of container to be used for such shipments will be established prior to the initiation of D&D activities, through a Material Segregation and Containerization Criteria (MSCC) form.
21. Prior to the transfer of ERNM from NMD to the Waste Pits Project, NMD will have inspected all containers for prohibited items and/or free liquids, and removed any such items/liquids. NMD will also have performed any characterization needed to support the safe transfer and storage of the containers (i.e., safe mass), as well as the downblending of the waste, prior to the shipment of the containers to the Waste Pits Project.
22. The ERNM downblending facility and access roads to the facility will be maintained as uranium areas.

R1-D-280

R1-F05-009

1.2.1.2 FCBBX – Fluor Fernald Operations Labor and Maintenance

1. The manpower requirements presented by IT in the “Workforce Utilization Plan” are currently in the Performance Measurement Baseline (PMB) for FAT&LC labor requirements.
2. All IT operations which require FAT&LC support, with the exception of loadout, are to be conducted, for as long as IT is processing waste, to support 24-hour per day operations, Monday through Friday. Specifically, such operations are conducted using three eight-hour shifts per day, Monday through Friday.

3. Maintenance activities are to be conducted, for as long as IT is processing waste, to support 24-hour per day operations, Monday through Friday. Specifically, such operations are conducted using three eight-hour shifts per day, Monday through Friday. In addition, most major maintenance activities will be performed on the weekend, by personnel working overtime (as required by the [Collective Bargaining Agreement] CBA).
4. All railcar loadout activities, are to be conducted, for as long as IT is processing waste, using a four-day per week, ten hour per day shift, Monday through Thursday.
5. Any FAT&LC labor required to support the Fluor Fernald transfer of wastes from Soil Pile #7 to the IT facility, will be drawn, as necessary, from the workforce assigned to IT.
6. IT facility D&D, which requires FAT&LC personnel resources, will be conducted as a one shift per day operation, using one eight-hour shift per day, Monday through Friday.
7. The planned pugmill ventilation system will not require any additional FAT&LC labor beyond those currently assigned to IT.
8. IT will continue to provide all personal protective equipment (PPE) and safety equipment (e.g. hard hats, safety glasses, etc.), as well as winter protective gear, for all of the FAT&LC work force.
9. Activities associated with the downblending of ERNM (by IT) will be conducted using a four-day per week, ten hour per day shift, Monday through Thursday.
10. Sufficient manpower and appropriate craft disciplines will be available to support a one-shift ERNM downblending operation, that averages a throughput of 10 containers per day.

R1-
F05-
009

1.2.1.3 FCBB5 – Fluor Fernald Operations Staff

1. Fluor Fernald will provide supervisors, for as long as FAT&LC personnel are assigned to support IT, to provide day-to-day direction.
2. Fluor Fernald Supervisors, with the exception of Maintenance Managers, will work the same schedule as the FAT&LC workforce they are supervising (as identified in Section 1.2.2).
3. Fluor Fernald Maintenance Managers coverage will be required 24 hours per day, seven days a week. This will be accomplished using a 7-day per week, 12-hour per day schedule, with each manager working every other week.

R1-
F05-
001

4. ~~Fluor Fernald will continue to provide safety coverage 24 hours per day, seven days a week. Through the 2nd quarter of FY02 this safety coverage is provided by Safety Engineers and an Industrial Hygienist using a 7 day per week, 12 hour per day schedule, with each person working every other week. Beginning in the 3rd quarter of FY02, after having received necessary training, this responsibility will be shifted to Fluor Fernald Supervisors for activities being performed on the 2nd and 3rd shifts.~~

R1-
F05-
009

5. Materials from Soil Pile (SP) 7 (i.e., from other FEMP projects) will be delivered to IT by truck to the west side of the Material Handling Building (MHB). Materials to be delivered from any other location will be the responsibility of the generating project (e.g., enriched nuclear material inventories ~~blended by UWD~~ from NMD [i.e., PBS-08] will be delivered by ~~UWD~~ NMD to the IT facility, at their cost).

6. Materials transferred from SP7 will be transferred to IT using existing WPRAP FAT&LC resources, and FEMP equipment (e.g., front-end loaders).

7. The planned pugmill ventilation system will not require any additional Fluor Fernald oversight personnel beyond those currently planned.

8. The planned pugmill ventilation system can be operated within the utility constraints (e.g., natural gas, potable water limitations) defined in the IT subcontract.

9. On-site and/or off-site laboratory support, being provided in support of the project, will be available through completion of the project, to support IT oversight activities and the WPRAP radiological control program.

10. Burn Pit sampling and analysis will demonstrate that there are no RCRA issues associated with materials in and around the Burn Pit.

11. WPRAP will need to replace safety equipment (e.g., hard hats and safety glasses) for oversight personnel, at a rate of 33% per year.

1.2.1.4 FCBBC – Waste Pit Area Characterization

1. Characterization of the soils beneath the waste pits will be performed as follows:

(A) Pits 1, 2, and 3 will occur between 1st quarter FY04 and 2nd quarter FY04

(B) Remainder of pits will occur between 2nd quarter FY04 and 4th quarter FY04

2. Fluor Fernald will complete the characterization of the Burn Pit area, and verify that there is no RCRA issue, prior to IT initiating excavation of the Burn Pit.

3. Field activities for the Burn Pit RCRA characterization will begin in the 4th quarter of FY01 following the development of a sampling plan, and review and approval of

that plan by the EPAs, and will be completed in the 1st quarter FY02.

4. RCRA characterization of the Burn Pit will be completed through one round of sampling, with twelve borings (taken to a depth of 12 feet), yielding 150 samples for analysis. The samples will be analyzed for methylene chloride, 1,1,1-trichloroethane, and cresol (cresylic acid), which should be sufficient indicators of the presence of the NEC solvents.
5. Characterization of the soils beneath Pits 1, 2, and 3 (including the berm areas between the pits) will be completed with a total of 51 borings. From these borings, 422 samples will be analyzed at an on-site laboratory and 571 will be analyzed off-site.
6. Characterization of the soils beneath Pits 4, 5, 6, the Burn Pit, and the Clearwell (including the berm areas between the pits) will be completed with a total of 61 borings. From these borings, 447 samples will be analyzed at an on-site laboratory and 654 will be analyzed off-site.
7. Subsurface soil borings taken beneath the waste pits (i.e., not the berm area) will be to a depth of no greater than 10 feet, with samples taken every foot.
8. All subsurface soil samples will be analyzed for the full list of VOAs, SVOAs, pesticides, and PCBs. Samples from the first five feet will be analyzed for total uranium, Th-228, Th-232, Ra-226, Ra-228, Th-230, Tc-99, arsenic, beryllium, silver, cadmium, and antimony. Although samples from the second five feet will be archived for possible later analyses (i.e., for metals and radionuclides), if contamination is not bounded in the first five feet, this analytical effort is not included in the costs for this plan.
9. Berm samples will be taken every 180 – 200 feet around the perimeter of each pit, and will be taken to a depth of ten feet below the bottom elevation of the adjoining pit (i.e., to a depth of 27 – 40 feet). For the first half of the boring, samples will be taken every five feet, then every two feet for the remainder of the sample.
10. Berm samples will be analyzed for the same analytes selected for the subsurface soil samples. Similar to the soil sampling, a portion of the samples will not be analyzed for metals and radionuclides pending the outcome of the scheduled analyses. Specifically, the last three sample intervals for each boring will be archived for possible later analyses for metals and radionuclides, although this analytical effort is not included in the costs for this plan.
11. The approach to developing the sampling and analysis strategy for the soils below the pits, and for presenting this strategy to the EPAs (i.e., the document format), will be similar to the approach used for SDFP characterization, and will be acceptable to the EPAs.

12. WPRAP is responsible for the characterization costs for all soils below the pits, including the development of the Sampling and Analysis Plans, sampling of the material, analysis of samples, and data reduction, regardless of the destination of those soils.
13. On-site and/or off-site laboratory support, being provided in support of the project, will be available through completion of the project, to support IT oversight activities and the WPRAP radiological control program.
14. The planned Burn Pit sampling and analysis will demonstrate that there are no RCRA issues associated with materials in and around the Burn Pit.
15. Following completion of soils excavation by IT, but prior to the completion of IT operations, real-time scanning will be performed to ensure that all materials above the OSDF WAC have been removed.

1.2.2 Exclusions

1.2.2.1 FCBB3 – IT Subcontract

1. The Soils Project (PBS-06) will be responsible for providing the resources necessary to excavate, transport, and dispose of those soils from below the waste pits which meet the OSDF WAC.

1.2.2.2 FCBBX – Fluor Fernald Operations Labor and Maintenance

None

1.2.2.3 FCBB5 – Fluor Fernald Operations Staff

1. Beginning in FY02, any Programmatic labor costs, such as Quality Assurance (QA), Operations Assurance (OA), Public Affairs (PA), etc., will not be covered by the project.
2. Beginning in FY02, winter protective gear for any Fluor Fernald oversight personnel shall be provided by PBS-01.
3. Beginning in FY02, laboratory audit and surveillance costs will be covered by the Sample and Data Management group.
4. Beginning in FY02, external support for SSR's will not be covered by the project.
5. Beginning in FY02, project support by the Waste Acceptance Organization (WAO) will not be covered by the project.
6. Beginning in FY02, maintenance of government owned vehicles will be PBS-01.

7. Maintenance of Soil Pile #7 is specifically excluded.
8. The costs for the transfer of blended enriched nuclear waste material inventories, to the IT facility, will be provided by PBS-08.

1.2.2.4 FCBBC – Waste Pit Area Characterization

None

1.2.3 Government-Furnished Equipment/Services

1.2.3.1 FCBB3 – IT Subcontract

None

1.2.3.2 FCBBX – Fluor Fernald Operations Labor and Maintenance

None

1.2.3.3 FCBB5 – Fluor Fernald Operations Staff

None

1.2.3.4 FCBBC – Waste Pit Area Characterization

None

1.3 DRIVERS

1.3.1 FCBB3 - IT Subcontract

1. EPA Enforceable Milestones – which define Initiation of operations by March 1, 1999 (i.e., loading of waste into railcars).
2. CERCLA requirements – which provide that the work must proceed, such that there is substantive, continuous remediation.
3. The IT Subcontract (#98SC000001) – which defines the requirements which IT must adhere to, so as to perform the waste pit remediation activities in accordance with established commitments, goals, regulatory requirements (e.g., safety, environmental compliance), etc.

4. Various EPA approved documents, such as the WPRAP Remedial Design Package, the WPRAP Remedial Action Package, and the WPRAP Non-Typical Waste Management Plan – which define how IT will perform Waste Pit Operations activities.
5. The Envirocare WAC, as defined in the IT Subcontract, and the DOE Ohio Field Office Contract (#DE-AM24-98OH20053) – which define the characteristics that must be met by the waste product, after it has been processed and loaded into railcars by IT, for disposal at Envirocare.
6. 49 CFR 173.403 – which defines the waste characteristics that must be met by the waste product, after it has been processed, for loadout into railcars by IT, such that the material can be shipped as DOT LSA-I waste.
7. 49 CFR 173, 427, and 174.700(f) – which specify requirements for packaging of the wastes in a “strong tight package”, utilizing the railcar, liner and cover.
8. Availability of railcars – a sufficient number of railcars shall be provided to IT, by Fluor Fernald, such that IT can meet planned process rates.

1.3.2 FCBBX - Fluor Fernald Operations Labor and Maintenance

1. Section C.4.8 of the IT Subcontract (#98SC000001) – which defines the requirements for IT utilization of the FAT&LC workforce, including management and supervision, staffing, disciplinary action, work hours, etc.
2. The IT Workforce Utilization Plan – which defines the FAT&LC manpower needs, as determined necessary by IT.
3. The CBA between Fluor Fernald and the FAT&LC – which defines requirements associated with the performance of FAT&LC work at the FEMP.

1.3.3 FCBB5 - Fluor Fernald Operations Staff

1. The IT Subcontract (#98SC000001) – which defines the requirements which IT must adhere to, so as to perform the waste pit remediation activities in accordance with established commitments, goals, regulatory requirements (e.g., safety, environmental compliance), etc.
2. Various EPA approved documents, such as the WPRAP Remedial Design Package, the WPRAP Remedial Action Package, and the WPRAP Non-Typical Waste Management Plan – which define how IT will perform Waste Pit Operations activities.

3. The Envirocare WAC, as defined in the IT Subcontract, and the DOE Ohio Field Office Contract (#DE-AM24-98OH20053) – which define the characteristics that must be met by the waste product, after it has been processed and loaded into railcars by IT, for disposal at Envirocare.
4. 10 CFR Part 835, “Occupational Radiation Program”, the DOE Radiological Controls Manual, and Attachment J.3.4 of the IT Subcontract (#98SC000001) – which defines the radiological control program to be implemented by Fluor Fernald for Waste Pit Operations.

1.3.4 FCBBC – Waste Pit Area Characterization

1. OU1 Historical Information Re-Analysis Summary Report (November 1998) – which describes the information gathered regarding RCRA issues in the Burn Pit area, and the assessment of that information.
2. Completion of pit material excavation – characterization of the soils below the pits cannot be initiated until IT has completed its excavation of the pit material (exclusive of the liner).
3. The IT Subcontract (#98SC000001) – which defines the relationship between the Fluor Fernald subsoils characterization efforts and the IT excavation activities.
4. Various EPA approved documents, such as the WPRAP Excavation Plan - which define the relationship between the Fluor Fernald subsoils characterization efforts and the IT excavation activities.
5. A May 27, 1999 letter from DOE to OEPA (Letter No. DOE-0795-99) – which spells out DOE’s commitment to prepare a field sampling plan to investigate RCRA contamination issues in the Burn Pit area.
6. An August 23, 1999 letter from OEPA entitled “Conditional Approval Remedial Action Package for OU1”, providing conditional approval of the WPRAP Remedial Action Package – which stated that the Burn Pit RCRA characterization and remediation plan must be submitted to OEPA prior to the Burn Pit excavation.

1.4 PROJECT PHYSICAL DESCRIPTION

WPRAP is responsible for implementing the selected remedy of the OU1 Record of Decision (ROD), which encompasses the remediation of the 37.7-acre waste pit area of the FEMP. This area, in the northwest quadrant of the FEMP, consists of six waste pits, the Clearwell, and the Burn Pit, wherein wastes from past operations activities were stored or disposed.

The selected remedy presented in the OU1 ROD consists of the following activities:

- 1) Excavation of wastes from the pits (along with any residual contaminated soils beneath the pits),
- 2) Preparation of the waste (e.g., sorting, crushing, shredding),
- 3) Treatment by

thermal drying (as necessary to remove free water and achieve optimum moisture content to meet the Envirocare WAC), 4) Blending to achieve a uniform product, and loadout into railcars, 5) Transportation from the FEMP, and 6) Off-site disposal at Envirocare.

As a part of a site-wide integrated remediation effort, WPRAP is also responsible for managing wastes from other FEMP projects which are destined for disposal at Envirocare and can be properly managed through the WPRAP facilities. This includes materials such as: soils from the Soil & On-Site Disposal Facility Project, sludges from the Aquifer Restoration Project, and/or legacy wastes from the Waste Generator Services Project. For purposes of this discussion, this material is generally handled like the material excavated from the waste pits.

Waste Pit Operations encompasses the activities and resources associated with the above items 1-4.

1.4.1 FCBB3 - IT Subcontract

Under Subcontract with Fluor Fernald, IT has designed and constructed a facility, wherein the material from the waste pits is processed and loaded into railcars. IT is also providing the resources necessary to manage the operations of this facility, as well as excavate the material from the waste pits. Following completion of waste processing activities, IT will

D&D the above-grade portions of its remediation facilities, leaving at- and below-grade facilities for remediation by SDFP.

1.4.2 FCBBX - Fluor Fernald Operations Labor and Maintenance

As defined in the IT Subcontract, Fluor Fernald provides the FAT&LC personnel needed by IT to operate and maintain the remediation facility.

1.4.3 FCBB5 - Fluor Fernald Operations Staff

Fluor Fernald has staff directly assigned to the project to both supervise the FAT&LC personnel assigned to work for IT, and to oversee IT compliance with the IT Subcontract.

1.4.4 FCBBC - Waste Pit Area Characterization

Samples will be taken by Fluor Fernald of material in the Burn Pit area to assess potential RCRA characteristics of that material. Following excavation of the pit materials (exclusive of the liners), Fluor Fernald will characterize the soils below the pits, to provide the basis for determining the depth to which these soils will be excavated.

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

Waste Pit Operations is performed by IT under subcontract with Fluor Fernald, using facilities which it has designed and constructed, and management and support staff which

it supplies. In order to perform these Waste Pit Operations, however, IT utilizes FAT&LC personnel assigned to the project. Oversight of IT activities and supervision of FAT&LC personnel (assigned to IT) is performed by Fluor Fernald personnel assigned to the project. The technical scope and quantification for each of these is specified in the following sections.

1.5.1 FCBB3 - IT Subcontract

FCBB3 consists solely of the activities to be performed by IT in support of waste pit processing (i.e., it does not contain any Fluor Fernald resources). Activities performed under the IT Subcontract generally fall within the following tasks: 1) excavation/processing/loadout of materials; 2) D&D of the above-grade IT facilities; 3) medical monitoring; 4) construction and operation of a pugmill ventilation system; and 5) other miscellaneous subcontract modifications. The plan/ scope for each of these activities/tasks is defined in the following sections, along with a quantification of these activities/tasks.

1) Task #1 – Excavation/Processing/Loadout of Materials

1.1)1 Plan/Scope – Excavation/Processing/Loadout of Materials

The IT subcontract is set up such that IT is paid a unit price per ton for the processing of waste. This per-ton price includes IT costs for all of the activities performed by IT in support of that waste processing, including the excavation of the waste, preparation of the waste (including blending, screening, shredding, etc.), drying of the waste, loadout into railcars, wastewater treatment, support activities (including warehousing, respirator wash, laundry, etc.), and facility/equipment maintenance.

Excavation

Overall pit excavation is occurring as defined in the EPA-approved WPRAP Excavation Plan, using conventional excavation equipment. The pit excavation is being performed by the GCBCTC (currently working a four-ten schedule, Monday through Thursday), supervised by IT. All excavation equipment is provided by IT. Various campaigns have and will be implemented in order to blend various pit material to meet shipping and waste disposal requirements. Initial activity has focused on the excavation of pits 1 and 3, with some excavation in pits 2 and 5.

Once the waste pit materials and the liners have been removed, IT will be responsible for removing any contaminated pit subsoils destined for disposal at Envirocare, under the direction of Fluor Fernald. Specifically, WPRAP will be responsible for the characterization necessary to determine the extent (i.e., the depth) of the IT excavation. Approximately 18 inches of material (79,500 tons) is anticipated to exceed the OSDF WAC and will, therefore, need to be handled as any other pit waste and will be loaded for shipment to the PCDF under the IT subcontract. This material is to be managed by IT for the same price per ton that it is paid for the processing of the pit waste.

In addition to the waste pit material (and subsoils), various materials from other FEMP projects have been identified for processing by IT through OU1 waste processing facilities. These materials, as provided to IT, will meet the Envirocare WAC, and, as such, can be used for blending down some of the higher activity pit material. In general, this material will be stockpiled in SP7, and transferred by Fluor Fernald to IT, at a mutually agreeable location. This transfer will take place by truck to the west side and into the receiving bins (although the existing conveyor from the former SP6 area may be used). This material will be added in whatever ratio is desired to decrease the overall activity or moisture content for optimization of the operations. Although the method of entering the process is different, the price per ton produced is the same. In other words, once this material is loaded into railcars, there is no distinction made between this material and material excavated from the pits.

Waste Processing

Excavated waste material is transported from the pits over a designated IT haul road to the MHB via trucks. The trucks back up to the MHB and dump the material onto the designated receiving area. The as-received waste material is moved by front-end loader to the 4-inch vibrating screens where material is segregated to greater than 4 inches, or less than or equal to 4 inches. The less than or equal to 4 inch material makes up the wet stockpile material that is either fed to the dryer, blended with dryer product, or transported to the dry material staging area, depending upon the moisture content and radiological contamination of the material. Oversize materials (greater than 4 inch) from the vibrating screen are visually inspected and transferred to an appropriate staging area within the MHB to await further processing.

Large metal debris will be cut or sheared to meet the Envirocare WAC. Concrete and other noncompressible debris will also be size-reduced to meet the size requirements of the Envirocare WAC. Large wood pieces and compressible debris will be size-reduced by track-hoe mounted breaker jaws, or by stationary slow speed shear shredded to meet the Envirocare WAC.

Based on IT's evaluation of the waste characterization data provided in the RFP, it is anticipated that approximately 70% of material to be handled during the remediation of OU1 will require drying to achieve the WAC moisture criteria.

The indirectly heated thermal dryer units are designed to process all of the waste materials found in the WPRAP, with a "design basis" feed rate of 30 tons per hour feed on a average moisture content of 40 percent. The dryer dries the "design basis" material to a dryness of approximately 10 to 14 percent. The thermal dryer receives minus 4 inch waste material through the mass flow feeder which controls the rate of material fed to the dryer. Material is transferred from the wet material stockpile to the mass flow feeder using a front-end loader. The mass flow feeder maintains the set point feed rate to the rotary dryer. The feed material then moves along the feed transfer conveyor at a uniform rate for transfer to the dual-screw type auger feeder. The auger feeder provides a positive feed mechanism that assures uniform transfer of the material into the dryer, and a material plug that will limit the amount of infiltration air into the dryer, thereby enhancing thermal

transfer efficiency, providing a process seal, and maintaining the negative pressure to minimize the release of pollutants to the atmosphere.

The dryer product exits the dryer drum to a drag flight conveyor and radial stacker that transfers the dry product to the dried material stockpile. The product conveyor is fully enclosed to maintain a seal, minimize infiltration air into the dryer system, and allow the process to run under negative pressure to minimize the release of pollutants to the atmosphere. The dried product passes through double tipping valves to maintain this airlock. Front-end loaders are then used to move the material for loadout staging.

Railcar Loadout

Dryer material from the dryer and product blender is moved by front-end loaders to staging bins in the Railcar Loadout Building (RLB). Each staging bin has a usable capacity of 560 (650 tons). The bins are used to hold batches of dry material while awaiting confirmation of WAC performance criteria. Following acceptance, the dry product is loaded into railcars for shipment. Any material determined to be non-typical waste will be loaded into boxes for disposal by Fluor Fernald. Debris is stored in a designated area within the railcar loadout building for loading into the railcars in accordance with the Envirocare WAC (up to 10 percent by volume non-compactable debris, with a maximum size of 8ft by 8ft by 10 inches) uniformly distributed throughout the soil-like wastes.

Four railcars are brought through the RLB at a time. The cars are rolled into the RLB, where the railcar lids are removed at the lid station using an overhead monorail crane. Each car is inspected, and liners placed in the car. The railcars are positioned on the railcar scale in the RLB, tare weight recorded, and loaded with dry material using a front-end loader. A water mist dust suppression system is activated as necessary to minimize dust during transfer. After the railcar is loaded to the specific limit [+0,-.5 percent of the maximum allowable weight of 108 tons, or the maximum allowable volume of 87.74 cubic yards (9 inch freeboard), whichever occurs first], the railcar liner is sealed. The lid is placed on the car using the overhead monorail crane and the lid is then secured. The railcars index forward, and, as each car enters the decontamination station, the exterior of the car is washed to remove any residual dust. Collected water from washing is combined in the contaminated water collection tank for handling. When all cars are filled, the car group is then moved to the railcar survey area for swipe sampling and release to Fluor Fernald.

IT Sampling and Analysis

IT collects and analyzes samples of the air, processed pit wastes and wastewater. Samples of the processed and blended waste are collected and analyzed to ensure compliance with the Envirocare WAC for radiological, chemical, and physical parameters. These samples are collected in the RLB prior to filling railcars. In order to comply with the

Envirocare requirements, the laboratory performing chemical analysis is certified by the state of Utah.

Additionally, IT collects and analyzes samples of wastewater and stormwater for

compliance with contract requirements prior to discharging to the Bio-Surge Lagoon (BSL). IT uses both onsite and offsite laboratories to perform analyses.

1.1)2 Quantification – Excavation/Processing/Loadout of Materials

As stated previously, the total quantity of as-loaded waste materials (including pit materials, waste pit subsoils, and/or soils from other FEMP projects) destined for disposal at Envirocare is planned as being 540,579 tons. This total tonnage is comprised, in part, by the tonnage which was remaining on the IT subcontract at the time of the award of the Closure Contract, which is identified in the Closure Contract (including modifications), as 438,579 tons. This total also includes an additional 102,000 tons expected due to an increase in material density and a higher than expected optimum moisture for the material.

R1-D-268

The above quantity includes 40,440 tons of material to be received by the Waste Pits Project from other FEMP Projects. This quantity is the difference between the total quantity to be received from other FEMP Projects, as identified in the IT subcontract, and the quantity received before the time of the award of the Closure Contract. Specifically, the IT subcontract provided that IT would be receiving 90,440 tons of contaminated material from other FEMP Projects. Since the Waste Pits Project had received approximately 50,000 tons through the time of the Closure Contract award, the quantity remaining to be addressed is 40,440 tons.

R1-D-277

R1-D-277

Taking into account the shipping capabilities remaining for FY01, the limitation of 136,000 tons per year, and the need to account for Silo 3 materials in FY03 and FY04, Table 1 provides the proposed quantities to be processed through the IT facility for the remainder of the project. Table 1 also reflects the IT Subcontract unit price per ton per operational year.

R1-E-712

Fiscal Year	Quantity (Tons)	Unit Price Per Ton Oct.1 – Nov. 14	Unit Price Per Ton Nov. 15 – Sep. 30	Capital Recovery Per Ton ³
FY01	95,919 ¹		\$125.41	\$77.66
FY02	136,000	\$125.41	\$128.56	\$77.66
FY03	131,000 ²	\$128.56	\$130.71	
FY04	131,000 ²	\$130.71	\$132.91	
FY05	46,660	\$132.91	\$135.17	

1. This tonnage reflects the tonnage to be processed in FY01, after December 1, 2001.
2. This tonnage does not include the material to be shipped from Silo 3.
3. Capital recovery is paid through 304,071 cumulative tons, anticipated to be complete in Nov. 01.

R1-D-268

~~The totals above include an additional 102,000 tons above the contract amounts with IT.~~ There exists a high probability that an additional 100,000 tons of material will need to be addressed due to an increase in density of material encountered and a higher than expected optimum moisture for the material. Another 80,000 tons could be encountered,

but the probability is not nearly as great. This is attributable to the fact that the estimates for the first 202,000 tons of potential increased waste volume are based on a considerable amount of actual operating data on material densities and optimum moistures. The next 80,000 tons are projected largely on the assumption that the changes encountered to date will hold true in pits with little or no processing information available.

2) Task #2 – Facility D&D

2.1)1 Plan/Scope – Facility D&D

Under its subcontract with Fluor Fernald, IT is responsible for the decontamination and dismantlement of the above-grade portion of its waste remediation facilities, including the decontamination of equipment and buildings, for the lump sum price identified in the subcontract. The Fluor Fernald SDFP project is responsible for the removal and disposition of the at-or below grade slabs, foundations, and underground utilities. The IT subcontract further identifies six options available to IT to disposition the equipment and materials generated through this D&D effort: 1) free release; 2) removal to an NRC licensed facility of the subcontract (if applicable); 3) sale/transfer to another DOE facility; 4) disposal in the OSDF; 5) disposal at Envirocare; and/or 6) disposal at DOE's Nevada Test Site (NTS). For items 4, 5, and 6, IT will be backcharged for the container, shipping, and disposal cost.

Prior to the start of D&D activities, the subcontract also provides for IT to develop and submit an Implementation Plan for the D&D of its facilities, for review and approval by Fluor Fernald, DOE, and the EPAs. This Implementation Plan is to include a discussion of the key elements of IT's proposed D&D activities, including a scope of work, and a description of the general approach to D&D (including sequencing, characterization, materials management and disposal, environmental monitoring, a summary of supporting drawings and specifications, etc.). This will be the plan that IT will follow in performing the D&D.

The general concept that IT has identified for D&D is as follows:

- Excavation equipment will undergo gross decontamination, and the truck wash will be removed.
- The MHB will be converted into a decontamination facility; with smaller equipment being decontaminated on the decontamination pad (as appropriate).
- A preliminary (gross) decontamination will be performed on the various facilities, and the equipment located therein.
- Equipment will be disassembled for decontamination and size reduction (within the MHB) for disposal, and loaded into Fluor Fernald containers (based on the planned avenue for disposition).
- All buildings other than the MHB and RLB will be dismantled, and further decontaminated (as necessary), for disposal, and loaded into Fluor Fernald

- containers (based on the planned avenue for disposition).
- Final decontamination of the MHB and RLB will begin after all of the other facilities and equipment have been decontaminated and disposed.
- The MHB and RLB will be dismantled for disposal, and loaded into Fluor Fernald containers (based on the planned avenue for disposition).
- Support trailers (e.g., the laboratory, offices, etc.) will be decontaminated, as required, and either free-released, or dismantled and loaded into containers, if free-release is not an option.

According to IT's Workforce Utilization Plan, D&D activities will be performed using a combination of FAT&LC personnel and GCBCTC personnel. The cost for the GCBCTC personnel is a part of IT's lump sum price. FAT&LC personnel needs are discussed in Task #5 of Section 1.5.2 of this document.

2.1)2 Quantification – Facility D&D

As stated above, facility D&D is to be performed by IT for a lump sum price of \$7,775,726. If, through this D&D effort, materials require dispositioning in the OSDF, at Envirocare, or NTS, IT will be backcharged by Fluor Fernald for the container, shipping, and disposal cost, as identified in the subcontract. The actual amount of materials which may have to be dispositioned from this D&D activity, through Fluor Fernald, will not be known until the D&D Implementation Plan is developed. IT has, however, estimated that approximately 65,000 ft³ of debris requiring such disposal would be generated through D&D, with 25% of this total going to the OSDF and 75% going to Envirocare.

3) Task #3 – Medical Monitoring

3.1)1 Plan/Scope – Medical Monitoring

Under the subcontract, IT will collect and analyze samples of the air for arsenic, asbestos, beryllium, dust, vanadium, and silica. Medical monitoring of workers is also included in this program.

IT will be responsible for collecting and analyzing air and waste samples as required by the subcontract. IT will be responsible for implementing and maintaining an ongoing occupational enhanced air quality monitoring program. A portion of this program shall include monitoring for arsenic, asbestos, beryllium, dust, vanadium, and silica, which will be paid for by Fluor Fernald. These activities will include breathing zone and area air quality sampling and analysis for arsenic, asbestos, beryllium, dust, vanadium and silica. IT is responsible for maintaining and operating the equipment for this program. Medical monitoring shall be included in this program and IT is responsible for providing a list of workers, by job classification, who must participate in medical monitoring. All other costs associated with their program will be paid for by IT.

3.1)2 Quantification – Medical Monitoring

Table 2

DESCRIPTION	QUANTITY	NEEDS ASSESSMENT
Recurring Costs	12 each year – total of 40	Will remain constant through Jan. Aug. 05
Bulk Sampling	185 each year – total of 602	Will remain constant through Jan. Aug. 05
BZ Sampling	1190 each year – total of 3868	Will remain constant through Jan. Aug. 05
Air Sampling	630 each year – total of 2075	Will remain constant through Jan. Aug. 05

R1-
F05-
003

~~Used .25 factor to estimate number of samples for FY05.~~

4) Task #4 – Pugmill Ventilation System

4.1)1 Plan/Scope – Pugmill Ventilation System

From October 2000 through March 2001, WPRAP conducted a Sequential Operations Monitoring Program. The purpose of this program was to collect and evaluate additional operational and air monitoring data that would better define source(s) of airborne radiological contaminants, principal contaminant migration pathways, and the need for additional mitigation measures, as appropriate, for waste pit material movement, handling, and thermal drying operations. As identified in the Sequential Operations Report, one finding was the thermal drying system, specifically the operation of the pugmill, is considered a significant contributor to air emissions in the project area and represents a key opportunity to achieve further ALARA-based reductions in emissions.

To mitigate these airborne emissions from the pugmill, an engineering control will be constructed. IT initiated a conceptual system design in January 2001. The recommended pugmill ventilation system is composed of an open bin/30,000 scfm gas cleaning system. This system will create a high draw on the product bin to collect any steam or dust generated. The system will process the gas stream through a Gas Cleaning System with the highest removal efficiency, using a Venturi Scrubber, a Wet Electrostatic Precipitator (WESP), and High Efficiency Particulate Air (HEPA) Filtration. This system uses high flow to ensure the capture of the gas stream emerging from the product bin, allowing for the open operation of the bin and pugmill area.

R1-
F05-
007

The current plan is to initiate detailed design of this pugmill ventilation system in July 2001, and to complete the ~~construction~~ acceptance testing of this system in January 2002.

4.1)2 Quantification – Pugmill Ventilation System

To implement the above recommendation for the pugmill ventilation system, IT will be required to perform the following types of activities: detailed design; system procurement; system construction; systems testing; operations; maintenance; and D&D. The cost of the detailed design, system procurement, system construction, and systems testing will be placed on the subcontract as a lump sum or sums, totaling approximately \$2M ~~\$1.3M (per IT's estimate in the Pugmill Engineering Evaluation Report)~~. The cost of the operations and maintenance will be placed on the subcontract for each of the years over which the system will be in use, with the total operation and maintenance cost estimated by IT to be approximately \$.6M ~~\$.7M \$1.3M~~. Finally, a lump sum cost for the D&D of the pugmill ventilation system will be placed on the subcontract (in addition to the amount identified in Task #2 of this section), at approximately \$.2M ~~(per IT's estimate)~~.

R1-
F05-
002

~~IT has stated in the Pugmill Engineering Evaluation Report that~~ The addition of this pugmill ventilation system will not add to the current workforce requirements (i.e., required FAT&LC personnel) to safely operate and maintain the IT waste remediation facility.

5) Task #5 – Miscellaneous Subcontract Modifications

5.1)1 Plan/Scope – Miscellaneous Subcontract Modifications

In addition to the items identified above as a part of the IT subcontract, there are some miscellaneous items which are on the subcontract, which Fluor Fernald is obligated to pay. Specifically, these items have either been placed on the IT subcontract since December 1, 2000, or are items for which costs will be incurred by IT, over a period of time past the December 1, 2000 date of the subcontract. Table 3 provides details associated with these items.

In addition to these items, Fluor Fernald is currently in the process of negotiating a modification to the IT subcontract for thorium sampling/analysis of the waste materials being processed through the IT facility. This obligation is a finding from the Sequential Operations Report, and is necessary for process control until the pugmill ventilation system is operational (see Task #4). The cost for thorium sampling/analysis is estimated to be approximately \$400,000.

5.1)2 Quantification – Miscellaneous Subcontract Modifications

Table 3

Mod. No.	Description	Obligation (in dollars)				
		FY01	FY02	FY03	FY04	FY05
27	HEPA/DOP Testing – Tests Per Year	2522	2522	2522	2522	2522
43	ASR Changes – Hydrogen	8635				
50	Bonds and Insurance – Each Year	211,210	213,107	135,373	137,314	124,501
55	Pugmill Engineering Evaluation	48550				
56	Maintenance Building Wall	24638				
56	Portable Gamma Spectroscopy Training	990	990	990	990	990
57	Relocation Of Supervisor and Break Trailers	99000				

Dollars in Table 3 are un-escalated FY01 dollars.

R1-
F05-
008

Task #6 – Pit 4 Enhanced Excavation

6.1)1 Plan/Scope – Pit 4 Enhanced Excavation

In order to mitigate the potential for the oxidation of thorium metal fines, Pit 4 must be excavated under a different approach than previously identified. Specifically, IT will implement a methodical/surgical approach to the excavation of Pit 4 in order to minimize the potential for the oxidation of thorium metal fines, if encountered. This approach requires additional equipment, and a dedicated crew, so as not to impede the schedule of the excavation of the remaining pits.

R1-
F05-
008

The Pit 4 excavation approach provides for the pit surfaces to be topographically surveyed using a grid system for characterization and excavation. This in-situ characterization will be performed in an attempt to discern any appreciable quantities of thorium metal or other potentially pyrophoric material. Using the grid information, the excavation activities can progress with relative controls to the identified content profile. The excavation lifts will be small enough to allow for inspection and radiological measurements, as the work progresses. Material that is considered high risk and/or non-typical will be segregated, with non-typical wastes managed consistent with existing approved plans.

Due to the high concentration of debris expected, and due to the fact that the thorium metal may exist in various container sizes, vigilance by excavation and oversight personnel is mandatory. Numerous project documents must be generated or modified to support this activity.

6.1)2 Quantification – Pit 4 Enhanced Excavation

To implement the Pit Enhanced Excavation, IT will be required to perform the following

types of activities: documentation changes and development, equipment procurement; transfer bin construction; testing; SSR, operations and maintenance. The cost of the documentation changes and development, equipment procurement; transfer bin construction; testing; and SSR activities will be placed on the subcontract as a lump sum or sums, totaling approximately \$.2M. The cost of the operations and maintenance will be placed on the subcontract as a lump sum with the total operation and maintenance cost estimated by IT to be approximately \$.7M.

R1-
F05-
009

6) Task #7 – Processing of Enriched Restricted Nuclear Materials

7.1)1 Plan/Scope – Processing of Enriched Restricted Nuclear Materials

Consistent with the site-wide goal of integrating efforts associated with the off-site disposal of FEMP materials at Envirocare, a set campaign of drums of enriched restricted nuclear materials (ERNM) will be managed through the IT facility for shipment in railcars to Envirocare. Specifically, for this effort a campaign of approximately 2,400 drums will be transferred to the Waste Pits Project (i.e., IT) by the Nuclear Material Disposition (NMD) Project. Although this material will ultimately be managed consistent with the other materials contained within the IT subcontract, additional activities (i.e., beyond those currently defined in the subcontract) will first need to be performed by IT to downblend this material to 0.7% enrichment (nearly natural enrichment). This effort will be accomplished by IT, as follows, within the waste pits area.

To accomplish this task, IT will construct and operate a downblending facility (i.e., a sprung structure) to ensure containment and control of the process. This structure, to be constructed adjacent to Pit 6, will be equipped to facilitate the blending and will be large enough to stage various pit waste working piles and containers. This facility will be used to open the containers of ERNM, dump the contents, mix or blend the ENRM with pit waste, crush the drums, etc. In order to assure proper containment of airborne, a localized airborne particulate capture ventilation system will be installed.

NMD will supply an average of 10 containers per day during blending operations. Prior to the transfer of the ERNM, NMD will decant all free liquids from the containers. Material will be delivered to the project below a safe wet mass, which will be one to four containers on a pallet. After confirmation by analysis that the material has been effectively downblended, another safe mass can be accepted into the facility.

Pit 6 material will be excavated and used for blending stock. The NMD material will be blended with waste pit material of similar density and other physical characteristics such that physical separation/reconcentration will not occur in transit to the disposal facility. A blender will be utilized to achieve the requisite homogeneity. Once downblended, the material will be placed back into Pit 6, until it can be processed and loaded (as a part of the normal IT operations process) for delivery to Envirocare.

R1-
F05-
009

7.1)2 Quantification – Processing of Enriched Restricted Nuclear Materials

To implement the processing (i.e., downblending) of enriched restricted nuclear materials, IT will be required to perform the following types of activities in support of the construction and operation of a downblending facility: documentation preparation, facility design, equipment and facility procurement, facility construction, testing, SSR, operations and maintenance, and D&D. The cost of the design, procurement, document preparation, construction, testing, and SSR will be placed on the subcontract as a lump sum or sums, totaling approximately \$1.9M. The cost of the operations and maintenance will be placed on the subcontract as a lump sum with the total operation and maintenance cost estimated by IT to be approximately \$2.1M. Finally, a lump sum cost for the D&D of the ERNM downblending facility will be placed on the subcontract (in addition to the amount identified in Task #2 of this section), at approximately \$.2M (per IT's estimate).

As discussed under Task #6 of Section 1.5.2, this work will be performed by a dedicated crew of FAT&LC personnel for a period of approximately one year, with the initiation of drum deliveries in June of 2002, and a planned completion date of August, 2003.

1.5.2 FCBBX - Fluor Fernald Operations Labor and Maintenance

IT is responsible for assigning and directing the FAT&LC labor workforce during the performance of subcontract #98SC000001. If, during the performance period of the contract, the actual FAT&LC labor requirements are greater than the defined hours per the Workforce Utilization Plan, IT Corp. shall be backcharged for a portion of the additional costs incurred.

Activities associated with FAT&LC Labor for Waste Pit Operation include: Railcar Loadout, Blending and Segregation Operation, Dryer Operations, Maintenance, Operations Support and Water Maintenance. These activities are described in Tasks #1 and #2 of this section, with the exception of Operations Support. Operations Support activities are described in Task #3 of this section.

In addition to the FAT&LC personnel resources identified in this section, another 20% of the total FTE hours per year are planned to be worked as overtime.

1) Task #1 – FAT&LC for Waste Preparation/Loadout

1.1)1 Plan/Scope – FAT&LC for Waste Preparation/Loadout

FAT&LC personnel perform waste preparation and loadout activities under the technical direction of IT. These activities will involve three resource classifications, HAZWATS, Heavy Equipment Operators (HEOs), and Locomotive/Switchmen. Waste preparation work is performed on three shifts, 24 hours per day, five days a week. Loadout activities are performed on one shift, 10 hours per day, four days a week. The quantities presented in Table 4 are applicable and resources utilized will remain constant through January 2005. The costs associated with the building and heavy equipment for this activity is included in

IT's cost. Fluor Fernald is responsible for the FAT&LC labor cost.

Activities performed on all three shifts utilizing HEOs are: segregation, mixing, and blending of material received from pit excavation, transfer of material inside MHB and RLB, transfer of material to and from screener and shredder, transfer of material to dryer and transfer of product material from dryer and other heavy equipment operations in support of dryer operations. In addition, HEOs can be utilized on all shifts to provide assistance to maintenance personnel in performing maintenance of equipment.

Activities performed on all three shifts utilizing HAZWATS are: operation of the screener and shredder, operation of the floor sump system, and operation of the stockpile conveyor and conveyor feeder. In addition, HAZWATS can be utilized on all shifts for collection and submittal of samples from process and product material or to provide assistance to maintenance personnel in performing maintenance of equipment.

Loadout activities performed Monday through Thursday, 10 hours a day utilizing Locomotive/Switchman are: operating the trackmobile to move railcars within the RLB and providing assistance to maintenance personnel in performing maintenance on locomotive equipment.

Loadout activities performed Monday through Thursday, 10 hours a day utilizing HAZWATS are: operation of the dust suppressant system, railcar bridge crane, railcar scale, preparing railcars for approved material, removing railcar lid, inspection of railcar, installing liners, preparing railcars for release, installing railcar lids, weighing railcar and decontamination of railcar.

Loadout activities performed Monday through Thursday, 10 hours a day utilizing HEOs are: receiving material into the MHB and loading of material meeting WAC and weight restrictions into railcars.

1.1)2 Quantification – FAT&LC for Waste Preparation/Loadout

Table 4

RESOURCE CLASSIFICATION	1 st SHIFT	2 nd SHIFT	3 rd SHIFT
Locomotive /Switchmen	2	0	0
HAZWATS	7	3	3
Heavy Equipment Operators	6	4	3

Resources will remain constant through completion of operations (January 05).

2) Task #2 – FAT&LC for Waste Drying/Water Treatment/Off-Gas Treatment

2.1)1 Plan/Scope – FAT&LC for Waste Drying/Water Treatment/Off-Gas Treatment

FAT&LC personnel perform waste drying, water maintenance, and off-gas treatment activities under the technical direction of IT. This work is performed on three shifts, 24 hours per day, five days a week with the resource utilized being Chemical Operators. The quantities presented in Table 5 are applicable and resources utilized will remain constant through January 2005. The costs associated with the building, dryer, and off-gas equipment for the waste drying activities are included in IT's cost. Fluor Fernald is responsible for the FAT&LC labor cost.

Waste drying activities (along with off-gas treatment) performed on all three shifts utilizing Chemical Operators are: inspecting and operating the thermal dryer system including dryer operations, operation of the feed systems, air pollution control systems, and support/utility systems.

Water Maintenance activities performed on all three shifts utilizing Chemical Operators are: Inspection and operation of Clearwell and storm water pumping systems, operation of in-pit dewatering systems, operation of the containment dewatering systems, operation of the water treatment plant, and collection and transfer of samples prior to discharge of water to the BSL.

Staffing requirements for each shift include "inside operators" responsible for the control room operation of the above described activities. In addition, Chemical Operators can be utilized on all three shifts to provide assistance to maintenance personnel in performing maintenance of equipment.

2.1)2 Quantification – FAT&LC for Waste Drying/Water Treatment/Off-Gas Treatment

Table 5

RESOURCE CLASSIFICATION	1 st SHIFT	2 nd SHIFT	3 rd SHIFT
Chemical Operators	7	8	7

Resources will remain constant through completion of operations (January 2005).

3) Task #3 – FAT&LC Operations Support

3.1)1 Plan/Scope – FAT&LC Operations Support

FAT&LC personnel perform operation support activities under the technical direction of IT. This work is performed on three shifts, 24 hours per day, five days a week and the following resources are utilized (and summarized in Table 6).

Operations support activities utilizing Laundry Workers include: operation of the laundry equipment, handle laundry chemicals, gather, launder, fold, issue and maintenance of clothing/PPE.

Operations support activities utilizing Respirator Washers include: operation of the respirator wash facility and inspection, issuance and maintenance of respirators.

Operations support activities utilizing Warehouse Attendants include: receiving, verification, storing, and distribution of supplies from the warehouse.

Operations support activities utilizing Motor Vehicle Operators include: operation of forklift trucks and personnel vehicles, including manual loading and unloading of these vehicles.

Operations support activities utilizing Porters include: clean offices and/or trailers, restrooms, inside pest control and collect clean trash.

Operations support activities utilizing General Laborers include: moving furniture, mowing grass, building or repairing fences, trash removal and snow removal.

Operations support activities utilizing Transportation Laborers include: clean trash pickup, bracing/shoring of shipments, deliveries and escorting Rumpke trucks.

3.1)2 Quantification – FAT&LC Operations Support

Table 6

RESOURCE CLASSIFICATION	1 st SHIFT	2 nd SHIFT	3 rd SHIFT
Laundry Worker	4		3
Respirator Washer	2	1	1
Warehouse Attendant	2	1	
Motor Vehicle Operator	1		
Porters	1		1
General Laborer	1		
Transportation Laborer	1		

Resources will remain constant through completion of operations (January 2005).

4) Task #4 – FAT&LC for IT Facility Maintenance

4.1)1 Plan/Scope – FAT&LC for IT Facility Maintenance

FAT&LC personnel perform maintenance activities under the technical direction of IT. This includes preventative and corrective maintenance on all equipment and facilities, with the exception of maintenance of excavation equipment which is covered by a lease agreement that includes maintenance by the provider. Most major maintenance activities will be conducted on the weekends when normal operations are down.

Maintenance activities utilizing Carpenters include: install, repair and maintain offices, furniture, plant facilities, fabricating and repairing wooden equipment such as skids, crates, signs and containers.

Maintenance activities utilizing Electricians include: inspecting and maintaining electrical wiring, machinery and equipment, analyze and diagnose electrical systems and problems.

Maintenance activities utilizing Industrial (Garage) Mechanics include: inspect, maintain, analyze and diagnose faulty operation and repair of mobile plant equipment and vehicles.

Maintenance activities utilizing Instrument Mechanics include: install, maintain, and repair pneumatic, electronic, mechanical, and hydraulic measuring, recording and controlling instruments.

Maintenance activities utilizing Millwrights include: install, move, dismantle and maintain all types of machines and equipment, balance align and check operation of equipment to specifications.

Maintenance activities utilizing Welders include: perform acetylene, arc and other types of welding on metals, set up and maintain welding equipment.

Maintenance activities utilizing Pipefitters include: layout, install, inspect and maintain piping systems, install insulation on piping and flues housing.

Maintenance activities utilizing Oilers include: lubricate, oil and grease equipment, check and report on lube system problems.

4.1)2 Quantification – FAT&LC for IT Facility Maintenance

Table 7

RESOURCE CLASSIFICATION	1 st SHIFT	2 nd SHIFT	3 rd SHIFT
Electricians	2	2	2
Pipefitters	2		
Millwrights	2	2	2
Millwrights		10*	
Instrument Mechanics	1	1	1
Welder	1		
Carpenter	1		
Oiler	1		
Industrial (Garage) Mechanic		2	

* Millwright coverage will be required 24 hours per day, seven days a week. To accommodate this, millwrights will work an alternating 12-hour per day shift. Resources will remain constant through completion of operations (January 2005).

R1-
F05-
001

5) Task #5 – FAT&LC for IT Facility D&D

5.1)1 Plan/Scope – FAT&LC for IT Facility D&D

Consistent with IT's Workforce Utilization Plan, the CBA, and the PLA, IT facility D&D activities will be performed using a combination of FAT&LC personnel and GCBCTC personnel. Although the final delineation of personnel needs will not be known until IT develops its D&D Implementation Plan, the currently approved Workforce Utilization Plan does identify the FAT&LC personnel that IT expects that it will need to support D&D.

IT's Workforce Utilization Plan identifies the following FAT&LC job classifications as being needed to support D&D:

- Laundry worker for operation of the laundry equipment, handling laundry chemicals, gathering, laundering, folding, issuing and maintaining clothing/PPE.
- Respirator washer for operation of the respirator wash facility and inspection, issuance and maintenance of respirators.
- Warehouse attendants to perform receipt, verification, storage, and distribution of supplies from the warehouse.
- Motor Vehicle Operator to operate forklift trucks and personnel vehicles, including manual loading and unloading of these vehicles.
- Porter to clean offices, trailers, and restrooms, and to perform inside pest control and collect clean trash.
- HAZWATs for water pumping and treatment.

According to IT's Workforce Utilization Plan, work will be performed over a single shift, Monday through Friday, and will take seven months to complete. With completion of waste processing in January 2005, D&D will take place from February 2005 through August 2005.

5.1)2 Quantification – FAT&LC for IT Facility D&D

Table 8

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Laundry Worker	1	Remains constant from 2/05 through 8/05
Respirator Washer	1	Remains constant from 2/05 through 8/05
Warehouse Attendant	1	Remains constant from 2/05 through 8/05
Motor Vehicle Operator	1	Remains constant from 2/05 through 8/05
Porter	1	Remains constant from 2/05 through 8/05
HAZWAT	2	Remains constant from 2/05 through 8/05

R1-
F05-
009

6) Task #6 – FAT&LC for Processing of ERNM

6.1) Plan/Scope – FAT&LC for Processing of ERNM

FAT&LC personnel will perform activities associated with the downblending of enriched restricted nuclear materials under the technical direction of IT. These activities will involve three resource classifications: HAZWATs, an HEO, and a Motor Vehicle Operator. Downblending activities will be performed as a single shift operation, Monday through Thursday, 10 hours per day. The quantities presented in Table 8a are applicable and will remain constant through completion of the downblending activities in June 2003. Fluor Fernald is responsible for the FAT&LC labor costs.

Activities to be performed by the HEO includes: operation of heavy equipment (e.g. bobcat, front-end loader) for material movement within the facility.

R1-
F05-
009

Activities to be performed by the Motor Vehicle Operator includes: receiving drums, and operating forklift with barrel turner to dump drums.

Activities to be performed by the HAZWATs include: unloading drums, sampling material, running drum crusher, operating other equipment, operating sumps and portable ventilation equipment, etc.

6.2) Quantification – FAT&LC for Processing of ERNM

Table 8a

RESOURCE CLASSIFICATION	QUANTITY (April – June 02)	QUANTITY (July 02 – August 03)
Heavy Equipment Operators	0.6	1
Motor Vehicle Operators	0.6	1
HAZWATs	1.2	5

1.5.3 FCBB5 - Fluor Fernald Operations Staff

Fluor Fernald is responsible for oversight of the IT subcontract. Oversight activities include oversight of Waste Pit Excavation, including waste pit subsurface soils, oversight of WAC attainment, oversight of loadout, implementation of Radiological Control Programs, and transfer of materials from other FEMP projects to the IT facility (i.e., from SP7). Fluor Fernald provides all direct supervision of FAT&LC personnel under the technical direction of IT.

Discussions in this section, relative to personnel resources, do not include the quantification and rationale for FY01 Fluor Fernald personnel. The rationale for FY01 manpower is based on the charge in and charge out practices that were in effect as of the start of the Fluor Fernald Contract in December 2000. The rationale defined in this document is effective as of October 1, 2001 (i.e., beginning in FY02) and is based on

Revision 0 of the "Functional Responsibilities Matrix" issued in January of 2001.

1) Task #1 – Waste Pit Excavation Oversight

1.1)1 Plan/Scope – Waste Pit Excavation Oversight

As stated in Section 1.5.1, IT is responsible under the subcontract for the excavation of the waste pit materials and the soils beneath the pits, as well as the receipt and processing of soils from other FEMP projects. To ensure that IT is managing the excavation work in accordance with the subcontract, to facilitate the directed excavation of the soils below the pits, and to manage the transfer of materials from other FEMP projects to IT, WPRAP has assigned a Construction Engineer. Specifically, this individual has been assigned the following oversight responsibilities:

- Provides technical support of excavation and waste transfer activities to the Operations Manager and the subcontractor’s management team.
- Directs activities associated with the transfer of materials from other FEMP projects (i.e., from SP7).
- Assures technical and administrative standards, and safety programs are followed for excavation activities.
- Interfaces with IT on the directed excavation of the waste pits.
- Interfaces with other Fluor Fernald organizations and the subcontractor for resolutions of major technical issues.
- Prepares and maintains daily project reports and logs.
- Interfaces with WGS and WAO for the transfer of non-typical wastes from IT to WGS.
- Tracks maintenance issues related to Government Furnished Equipment (GFE) not under IT custody.

1.1)2 Quantification – Waste Pit Excavation Oversight

Table 9

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Construction Engineer	1	Remains constant through 1/05

2) Task #2 – Supervision of FAT&LC

2.1)1 Plan/Scope – Supervision of FAT&LC

As stated in Section 1.5 and 1.5.2, IT is responsible for assigning and directing the FAT&LC workforce during the performance of this subcontract. Fluor Fernald is responsible for supervision and oversight of FAT&LC personnel (assigned to IT) and Fluor Fernald personnel will perform this work. In performing this oversight the following resources will be utilized.

Project Support Managers and Project Support Representatives will be utilized as Plant Operations Supervisors, Loadout Supervisors and Collective Bargaining Agreement Administrator and will have the following responsibilities:

- Supervise Control Room Operators supporting the operation of the dryers, wastewater treatment systems, the gas cleaning system and ancillary facilities.
- Supervise FAT&LC personnel engaged in the mixing and movement of waste materials from the MHB in RLB bins, sampling of the waste in the bins and transfer of the waste into prepared railcars.
- Implement technical direction from the IT Shift Supervisor by direct field guidance and supervision.
- Integration among supervisors.
- Direct activity of assigned shift personnel in accordance with approved operating procedures.
- Interface with Fluor Fernald supervisors and IT shift supervisor concerning technical direction, coordination of work activities, availability of personnel/equipment and/or material.
- Monitor personnel in field to ensure adherence with safety and quality standards and requirements.
- Ensure that personnel properly inspect all equipment prior to use document the inspection, and use and maintain equipment properly.
- Coordinate industrial relations activities, as necessary, including grievance resolution, disciplinary action, employee replacement, absenteeism, sick time, vacation, attrition, overtime scheduling, and personnel issues related to the CBA and Fluor Fernald Human Resource policies and procedures.
- Ensure that only properly trained and qualified personnel are assigned duties involving operation and control of project equipment.

- Ensure that shift turnover is conducted according to operating procedures.
- Make entries and maintains daily logbook.
- Ensure that personnel comply with Conduct of Operations (CONOPs) principles and applicable requirements.
- Review and initial the Fluor Fernald Field Operation Team Leader/Supervisors Log and the IT Shift Supervisors Log at least once per shift.

The above mentioned duties are performed Monday through Friday, 24 hours per day, on three eight hour shifts.

Maintenance Managers will be utilized as Maintenance Supervisors and will have the following responsibilities:

- Supervise FAT&LC personnel engaged in the maintenance of equipment, facilities, utilities and components that support the operation of WPRAP.
- Implement technical direction from the IT Maintenance Manager and the IT Maintenance Supervisor by direct field guidance and supervision of the craft team members.
- Integration among supervisors.
- Direct activity of assigned shift personnel in accordance with approved operating procedures.
- Interface with Fluor Fernald supervisors and IT Maintenance Manager and the IT Maintenance Supervisor concerning technical direction, coordination of work activities, availability of personnel/equipment and/or material.
- Monitor personnel in field to ensure adherence with safety and quality standards and requirements.
- Ensure that personnel properly inspect all equipment prior to use, document the inspection, and use and maintain equipment properly.
- Coordinate industrial relations activities, as necessary, including grievance resolution, disciplinary action, employee replacement, absenteeism, sick time, vacation, attrition, overtime scheduling, and personnel issues related to the CBA and Fluor Fernald Human Resource policies and procedures.
- Ensure that only properly trained and qualified personnel are assigned duties involving performance of maintenance activities and operation maintenance support equipment.

- Ensure that shift turnover is conducted according to operating procedures.
- Make required maintenance documentation such as work orders and work records
- Maintain daily logbook.
- Ensure that personnel comply with CONOPs principles and applicable requirements.

Maintenance Manager coverage will be required 24 hours per day, seven days a week. The above mentioned activities will be performed by Maintenance Managers working 7 days per week 12 hour days and having every other week off. These resources are identified in Table 10. In addition, another 25% of the total FTE hours for these individuals are planned to be worked as overtime, each year.

A Maintenance Representative will be utilized as a Maintenance Planner and will have the following responsibilities:

- Reports directly to and assists the Fluor Fernald Maintenance Supervisor.
- Ensures the work procedures and/or plans to be followed are adequately preplanned.
- Ensures the work procedures and/or plans to be followed are reviewed for safety.
- Ensures the work procedures and/or plans to be followed are reviewed for radiological control specifications and contain all requirements.
- Provides administrative and engineering support to Maintenance Team by researching and preparing work procedures and/or plans to be used in the performance of maintenance activities.
- Maintains a record/log of work and maintenance performed.

The Maintenance Planner works 5 days a week and 8-hour shifts.

Project Support Managers and Project Support Representative will be utilized as Support Team Supervisors, will have the following responsibilities:

- Supervise FAT&LC personnel engaged in the operation of the WPRAP Laundry, Respirator Wash Facility and Warehouse, the activities of porters, Motor Vehicle Operators, and Laborers who support project operations.
- Implement technical direction as necessary from the Fluor Fernald Plant Operations Supervisor by direct field guidance and supervision.
- Coordinate work activities of support group with other supervisors.

- Interface with Fluor Fernald supervisors concerning technical direction, coordination of work activities, availability of personnel/equipment and/or material.
- Monitor support personnel in field to ensure adherence with safety and quality standards and requirements.
- Ensure that personnel properly inspect all equipment prior to use document the inspection, and use and maintain equipment properly.
- Coordinate industrial relations activities, as necessary, including grievance resolution, disciplinary action, employee replacement, absenteeism, sick time, vacation, attrition, overtime scheduling, and personnel issues related to the CBA and Fluor Fernald Human Resource policies and procedures.
- Ensure that only properly trained and qualified personnel are assigned duties involving operation and control of project equipment.
- Ensure that shift turnover is conducted according to operating procedures.
- Perform daily tours of project support areas to observe work conditions.
- Ensure that personnel comply with CONOPs principles and applicable requirements.

The above mentioned duties are performed Monday through Friday, 24 hours per day, on three 8-hour shifts.

2.1)2 Quantification – Supervision of FAT&LC

Table 10

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Project Support Managers	5 ¹	Remains constant through 1/05.
Project Support Representative	2	Remains constant through 1/05.
Maintenance Managers	4	Remains constant through 1/05.
Maintenance Representative	1	Remains constant through 1/05.

R1-
F05-
009

¹ One additional Project Support Manager will be needed to support the processing of enriched restricted nuclear materials from July 2002 through August 2003 (this individual will also be need 0.3 from April – June 2002).

In addition to the Project Support Manager and Project Support Representative resources identified in Table 10, another 10% of the total FTE hours for these individuals are planned (each year) to be worked as overtime to support planned weekend work.

3) Task #3 – Radiological Controls Program

3.1)1 Plan/Scope – Radiological Controls Program

Fluor Fernald is responsible for the performance of all activities necessary to perform radiological monitoring, record keeping, planning of control strategies, etc., for performance of all tasks relative to the project. Fluor Fernald will be responsible for all labor, supplies, equipment, and analyses to perform this function.

The WPRAP Radiological Control organization consists of the radiological control technicians (RCTs) necessary to support site operations to ensure a radiologically safe work environment and compliance with the site radiological control program. The operations radiological control support staff, for the purposes of this portion of the project, consists of the staff needed to provide field support for IT operations. Specifically, WPRAP radiological control personnel provide the following services:

Radiological Control Technicians

- An outside rover will be provided for each shift (i.e., three per day). This individual will be stationed in the Category 2 area to provide assistance to workers and maintain oversight of activities at the radiological area boundaries.
- An inside rover will be provided for each shift (i.e., three per day). This individual will be stationed inside the MHB/RLB to provide assistance to project workers in the area of radiological control requirements and oversight.
- A senior level RCT who will be responsible for establishing the radiological requirements to be employed in accordance with existing radiological work permits (RWPs) during work activities at the time of review and approval.
- A field lead RCT will be provided for each shift (i.e., three per day). This individual will coordinate radiological control resources and assign RCTs to specific tasks, and will act as the primary radiological contact for other organizations.
- A shift lead will be provided for each shift (i.e., three per day). This individual will review and approve all work during his assigned shift.
- RCTs will be provided to man the primary control point(s) to facilitate worker access and implement requirements. An RCT will be required at the T-321 control point each shift (i.e., three per day), and one RCT will be required at the T-555 control point during first shift.
- An RCT will be provided to man the T-321 annex during each shift (i.e., three per day). This individual will issue and collect lapel samplers, assist workers in donning and doffing PPE, and provide oversight at the primary facility radiological area exit.

- An RCT will be provided on 1st shift to perform the necessary surveys for railcars leaving the RLB, and provide radiological support and oversight for rail loadout operations.
- An RCT will be provided to support the IT laboratory (which is a first shift operation) and will provide radiological assistance for plant stack monitoring.
- An RCT will be provided for each shift (i.e., three per day, and on weekends), to support maintenance. This individual will provide radiological support and oversight for certain maintenance activities as specified by the applicable RWP.
- RCTs will be provided, as necessary, on every shift to perform routine radiation, contamination and airborne radioactive material surveys at specified frequencies.

In performing the above activities, the RCTs will be taking various samples for analysis at the Fluor Fernald on-site laboratory. The cost for materials needed to perform this sampling is reflected in Table 13, while the analyses to be performed in support of this effort is reflected in Table 14.

3.1)2 Quantification – Radiological Controls Program

Table 11

R1-F05-008	RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
	Radiological Control Technicians	26 ¹	Remains constant through 1/05

¹ One additional RCT will be required from 12/01 through 12/03 to support Pit 4 Enhanced Excavation. Another RCT will be required from 4/02 through 8/03 to support the processing of enriched restricted nuclear materials.

R1-D-376 In addition to the Radiological Control Technician resources identified in Table 11, another 30% ~~40%~~ of the total FTE hours for these individuals are planned (each year) to be worked as overtime to support planned weekend work.

Other direct costs (ODCs), materials, and subcontract costs in support of the WPRAP radiological control program are accounted for in Table 13 (under Task #4 of this section).

4) Task #4 – Operations Oversight

4.1)1 Plan/Scope – Operations Oversight

As stated in Section 1.5.1, IT Waste Pit Operations is performed by IT under subcontract with Fluor Fernald, using facilities which it has designed and constructed, and management and support staff which it supplies. To ensure that IT is managing the operations work in accordance with the subcontract, WPRAP has assigned a number of oversight personnel. In addition to other individuals identified in Section 1.5.3 of this plan, the following other personnel will be supporting the oversight of IT operations activities, to ensure conformance of those activities to the subcontract:

Operations Manager

- Provides overall management of all operations related personnel and activities, including excavation and other support activities.
- Directs activities for the WPRAP operations oversight team, ensuring compliance with plans, procedures, permit, and regulatory requirements.
- Coordinates with WPRAP rail operations to ensure empty railcars are delivered and full railcars are picked up in support of IT operations.
- Manages the assigned operations oversight team members.
- Oversees the planning for the transfer of materials from other FEMP projects to the IT facility.
- Assures the implementation of the safety program for all Fluor Fernald work activities.
- Ensures proper priority of tasks conducted by the operations team.
- Oversees the operations schedule.
- Utilizes reports and other control programs to monitor schedule and budget, including identification of potential problems and determination of action to correct the problem.

Plant Operations Manager

- Provides overall management and supervision of plant personnel and activities, and interfaces daily with the IT Plant Manager on operations issues.
- Provides operational guidance to operations and maintenance supervisors.
- Ensures procedural compliance on all operations and operations activities.

- Ensures the Fluor Fernald operations supervisors, team leaders and operators assigned to the operations teams are adequately trained, qualified, and prepared to operate equipment and perform operation activities.
- Periodically reviews operating logs, records, and process data.

R1-
F05-
001

~~Sampling and Analysis Coordinator~~

~~The Sampling and Analysis Coordinator reports to the Operations Manager and has the following responsibilities:~~

(Responsibilities moved to "Operations Technical Support" section)

~~Technical/Program Support Representatives-Operations Technical Support~~

These personnel perform various technical responsibilities in support of operations, including:

- Maintaining the project standing orders.
- Review all new system procedures for operational logic.
- Review all operating procedures for regulatory compliance.
- Review all site requirements manuals, procedures and revisions for impact on the Project and develop implementation plans.
- Perform CONOPs self assessments.
- Perform pre-operational readiness assessments (SSR/RA).
- Perform surveillances of operational activities.
- Develop assessment plans and pre-assessment activities for annual DOE CONOPs assessments.
- Review process performance against safety basis requirements.
- Review safety analyses for all new WPRAP projects and prepare and submit safety analysis requests.
- Review project documents to be submitted to external organizations (DOE/EPA).
- Review other Project remediation plans for interference with WPRAP goals.
- Review all CAT/ICAT/SOT plans for compliance.

- Review completed testing packages to ensure adequate certification of operability is provided.
- Write all startup/turnover documents per RM-0034.
- Write all pre-operational startup review packages and plans; perform pre-operational assessments.
- Develop and implement corrective actions for findings; track findings in commitment database to ensure timely completion.
- Perform investigations into unusual occurrences/events.
- Review all loggable events and make recommendations.
- Perform operational analysis of processes and programs performance and efficiency and make recommendations for improvement.
- Provide interpretive guidance for compliance with regulatory requirements (DOE orders) and determine the application of the graded approach to project tasks.
- Represent the operations organization for special tasking requirements.
- Coordination of training requirements for the multiple craft workforce.
- Development of training requirements for multiple processes in the operational scenario including new processes.
- Administration and management of multiple overtime lists for work assignments in a continuous shift operating basis.
- Monitors the performance of operations at the IT on-site laboratory for compliance with IT Standing Orders Manual for WPRAP.
- Reviews all IT sampling and analysis procedures.
- Coordinates all WPRAP sampling and analytical activities and activities of other Fluor Fernald organizations that support WPRAP, including activities of personnel from the Fluor Fernald Environmental Monitoring Group, Fluor Fernald Analytical Support Services, and Fluor Fernald Sample and Data Management.
- Inspects and conducts oversight of all project related analytical facilities and equipment.
- Reviews and documents acceptance of data to accompany waste shipments.

R1-
F05-
001

R1-
F05-
001

- Provides technical expertise to help solve analytical problems.

R1-
F05-
001

The above activities will be performed by a Technical/Program Support Representative, a Technical/Program Support Manager, and an Environmental Scientist Representative.

To support the oversight of IT sampling and analysis (and operational) activities, various samples will be taken for analysis at the Fluor Fernald on-site laboratory, including sampling to assess the potential for free-liquids to form during transport of the material to Envirocare.

QA/QC Technician

R1-
F05-
001

In support of operational QC activities, a part-time QA/QC Technician will perform the following types of activities:

- Quality assessments will be done at a rate of about 20 per year for maintenance activities (or new construction, as necessary).
- Verify unplanned commitments from external assessments.
- Perform vendor/supplier audits through surveillances.
- Perform about 30 planned surveillances of WPRAP activities per year, along with about another 50 unplanned surveillances.
- Issue about 50 nonconformance reports a year, and verify corrective actions.
- Review and approval of project documents with an emphasis on QA requirements.

R1-
F05-
001

Safety Engineers and IH Technicians

~~In support of operations, Safety Engineers and IH Technicians will perform a number of oversight tasks. Initially, this oversight will be provided through 24-hour, 7 day a week coverage. Beginning in the 3rd quarter of FY02, second and third shift safety oversight will be provided by Fluor Fernald shift supervisors. Responsibilities of Safety Engineers and/or IH Technicians include the following:~~

- ~~• Participate in project procedure/task order/work permit/job safety analysis development.~~
- ~~• Review work permits, maintenance work tickets, maintenance work instructions and task orders and prescribe safety requirements and personal protective equipment to do work (time includes walk down time).~~
- ~~• Complete safety and IH requirements on special safety, health and fire protection requirements form for service vendors who come on site.~~

R1-
F05-
001

- ~~Perform safety self-assessments.~~
- ~~Review and assist in development of contractor's safety documents (safe work plans, Wise travelers packages, health and safety plans, health and safety matrices, asbestos/lead certifications, etc.).~~
- ~~Assist project in developing usable designs changes that includes engineered safety features for personnel protection as required.~~
- ~~Participate in planning meetings for modification in work scope or new scope.~~
- ~~Respond to health and safety (H&S) questions from the contractor on issues from the safety section of the subcontract.~~
- ~~Support the subcontractor with technical assistance with H&S duties.~~
- ~~Review procedures and other site documents (such as JSA's) to ensure compliance with safety requirements and to ensure documents contain current safety requirements.~~
- ~~Provide safety walk downs and coverage in the field. Perform oversight of contractors to ensure all requirements are being met and to ensure compliance with associated procedures and work plans.~~
- ~~Assist the subcontractor with pre-job briefings to personnel on safety requirements.~~
- ~~Respond to audits and surveillances and provide corrective actions.~~
- ~~Assist project management in interpreting H&S requirements and implementing standards as required.~~
- ~~Review and approval of all purchase request orders for materials, services, vendors, etc.~~
- ~~Review material safety data sheets prior to purchase of chemical items; research and suggest alternatives for toxic chemicals.~~
- ~~Perform investigations of injuries/incidents/loss of property (including interviews, walking down accident scene) and perform tap root analysis.~~
- ~~Issue open flame and welding permits to the project.~~
- ~~Review and approve specific equipment plans.~~
- ~~Review and approve lift plans.~~

- R1-F05-001
- ~~Respond to employees' complaints and concerns raised during work group meetings, safety walkthroughs, etc.~~
 - ~~Assist in developing injury/accident information (number of injuries, hours worked, other events) for presentations and/or documents.~~
 - ~~Initial inspection of equipment arriving at the FEMP for use.~~

Discussions in this section, relative to personnel resources, do not include the quantification and rationale for FY01 Fluor Fernald personnel. The rationale for FY01 manpower is based on the charge in and charge out practices that were in effect as of the start of the Fluor Fernald Contract in December 2000. The rationale defined in this document is effective as of October 1, 2001 (i.e., beginning in FY02) and is based on Revision 0 of the "Functional Responsibilities Matrix" issued in January of 2001.

4.1)2 Quantification – Operations Oversight

Table 12

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Operations Manager	1	Remains constant through 1/05.
Project Support Representative Manager (i.e., Plant Manager)	1	Remains constant through 1/05.
Technical/Program Support Rep.	1.5	Remains constant through FY03, then goes to 0.5 through 1/05.
Engineer: Process & Startup (i.e., Sampling & Anal. Coord.) Environmental Scientist Representative	1	Remains constant through 1/05.
QA/QC Technician	0.6	Remains constant through 1/05.
Safety Engineer	3	Remains constant through 2 nd quarter of FY02, then goes to 1.2 through 1/05.
IH Technician	4	Remains constant through 2 nd quarter of FY02, then goes to 0.
Technical Project Support Manager	1	Remains constant through 1/05.
Chemist	3	Remains constant through 4 th quarter of FY04, then drops each quarter by .5 in FY05

R1-F05-001 In addition to the Safety Engineer and IH Technician resources identified in Table 12, another 25% of the total FTE hours for these individuals are planned to be worked as overtime through the first two quarters of FY02.

R1-
 D-
 378

In addition to the personnel discussed under the Plan/Scope for Task #4, Table 12 also includes resources for chemists to perform the analyses of the WPRAP samples sent to the FEMP on-site lab. The analyses quantities which support these chemist resources are reflected in Table 14. The sample quantities identified in Table 14 are based on past project experience, and represent samples from activities such as radiological monitoring and evaluations of free liquid release potential for waste materials. The majority of the samples are for the isotopic analysis of radiological air monitoring samples. At a rate of two per day, five days a week, from six locations, these radiological air monitoring samples equate to at least 275 per month.

Table 13

CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Materials – Maint. Supplies, Gas, Rad instrumentation, sampling materials,	\$300,000 each year	Remains constant through FY04, then drops to \$150,000 for FY05, unescalated in FY01 dollars
Subcontracts –	\$10,000 each year	Remains constant through FY04, then drops to \$5,000 for FY05, unescalated in FY01 dollars
ODCs – Travel to E-Care	\$5,000 each year	Remains constant through FY05, unescalated in FY01 dollars

Table 14

CLASSIFICATION	FY02	FY03	FY04	FY05
Samples	3,798	3,738	3,638	1,798

5) Task #5 – Oversight of IT Facility D&D

5.1)1 Plan/Scope – Oversight of IT Facility D&D

As stated in Section 1.5.1, IT is responsible under the subcontract for the decontamination and dismantlement of the above-grade portion of its waste remediation facility. The specific requirements to be followed by IT in completing this D&D effort are included in Section C.7 of the IT subcontract. The specific process that IT will use in performing the D&D will be detailed in a D&D Implementation Plan to be prepared by IT for review and approval by Fluor Fernald, DOE, and the EPAs. As stated in Section 1.5.2 of this plan, IT will perform the D&D of its remediation facilities using a combination of FAT&LC and GCBCTC personnel.

To ensure that IT is managing the facility D&D work in accordance with the subcontract, and to perform supervision and oversight of FAT&LC personnel (assigned to IT), WPRAP will assign various oversight personnel. This oversight will cover a period of time from February 2005 through August 2005. Brief descriptions of the types of oversight personnel are as follows:

A construction engineer will be maintained by the project to coordinate/manage Fluor Fernald oversight of the IT D&D activities. This individual will provide technical support of D&D activities for the project manager and interface with the IT D&D team. In addition, this individual will be responsible for assuring technical and administrative standards are followed by IT, and will also be responsible for interfacing with other Fluor Fernald organizations and the subcontractor for the resolution of major technical issues. A Technical/Program Support Representative will assist the construction engineer in the performance of these technical oversight activities.

A project support manager will support the project through supervision of FAT&LC support personnel assigned to IT for this D&D effort (see Section 1.5.2 of this plan). This individual will implement technical direction in the field, and coordinate work activities. This individual will also monitor personnel in the field.

Fluor Fernald will also maintain a radiological control program to support the specific IT D&D activities. This program would be supported by five RCTs. These RCTs will man the control point(s), provide assistance to project workers in the area of radiological control requirements, perform free-release surveys of equipment/facilities, etc.

Other oversight support will be provided by a QA/QC Technician and a Safety Engineer. The QA/QC Technician will perform surveillances and audits of the D&D activities, will issue nonconformance reports and verify corrective actions, etc. The Safety Engineer will participate in task order/work permit/job safety analysis development, perform safety self-assessments, review contractor health and safety documents, etc.

5.1)2 Quantification – Oversight of IT Facility D&D

Table 15

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Construction Engineer	1	Remains constant from 2/05 through 8/05
Technical/Program Support Representative	1	Remains constant from 2/05 through 8/05
Project Support Manager	1	Remains constant from 2/05 through 8/05
Radiological Control Technicians	5	Remains constant from 2/05 through 8/05
QA/QC Technician	0.5	Remains constant from 2/05 through 8/05
Safety Engineer	0.8	Remains constant from 2/05 through 8/05

1.5.4 FCBBC – Waste Pit Area Characterization

1) Task #1 – RCRA Characterization of Burn Pit

1.1)1 Plan/Scope – RCRA Characterization of Burn Pit

In a November 1998 report of Fluor Fernald's findings of a focused review of historical information associated with the disposal of wastes into the waste pits, information was presented on the disposal of potentially RCRA listed solvents and sludges from an off-site facility, within the waste pits. This report indicated that the exact location of the disposal was uncertain, although the assumption was made that these materials may be contained in the environmental media within the Burn Pit area. Upon review of this report, DOE concluded in a March 23, 1999 letter to Fluor Fernald that a contingency plan should be prepared to isolate and manage any solvent-contaminated media that may be located in the Burn Pit area due to the above disposal activity.

This task relates to the sampling effort needed to determine the extent of any necessary isolation and management activities to be employed with respect to the RCRA listed wastes in the Burn Pit area environmental media. The proposed sampling and analysis plan would be drafted by WPRAP Project Management personnel for submittal to the EPAs for review and approval. This plan, would be developed and submitted to the EPAs in FY01, and would define the sampling to be performed in support of the Burn Pit RCRA characterization effort.

The actual sampling to be performed for this characterization effort, will take place primarily during the 1st quarter of FY02, and will be performed by the Fluor Fernald Environmental Monitoring organization. It is planned that twelve soil borings will be taken in and around the area where the disposal is thought to have taken place (eight around the perimeter of the investigation area and four down the center of the trench). These borings will be taken to a depth of twelve feet, with one 6-inch sample collected every foot. From these borings, a total of 150 samples would be taken for off-site laboratory analysis for volatiles and semi-volatiles. The specific constituents which will be analyzed for are methylene chloride, 1,1,1-trichloroethane, and cresol (i.e., cresylic acid). Although formic acid is another possible constituent of concern, it is not a common analysis and it may be difficult to find a laboratory to perform it. Therefore, this estimate assumes that the other three analytes will be the indicators for the presence of the NEC solvent. Included in this characterization effort will be characterization necessary to satisfy the requirements of 1910.120 (including appropriate IH screening).

R1-D-
281

1.1)2 Quantification – RCRA Characterization of Burn Pit

To determine the resources needed by the Environmental Monitoring organization and Analytical Laboratory Services, the above information was provided to SDFP. Using an estimating tool, SDFP produced estimates of the personnel resources needed to manage this sampling/analysis effort. Table 16 provides a summary of the identified manpower needs.

Table 16

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Environmental Scientist Rep	.8	1 st Quarter of FY02
Environmental Scientist Tech	.5	1 st Quarter of FY02
Rad Tech	.3	1 st Quarter of FY02
Lab Tech	.7	1 st Quarter of FY02

Table 17 provides a summary of the analyses to be performed by on- and off-site laboratories in support of the Burn Pit RCRA characterization effort.

Table 17

ANALYSES	QUANTITY	NEEDS ASSESSMENT
Alpha/Beta Screens	150	Analysis performed by on-site lab
SVOA Analysis	150	Analysis performed by off-site lab
VOA Analysis	150	Analysis performed by off-site lab

2) Task #2 – Characterization of Pit 1, 2 and 3 Subsoils

2.1)1 Plan/Scope – Characterization of Pit 1, 2 and 3 Subsoils

In accordance with the OU1 ROD, any contaminated soils beneath the waste pits are to be excavated and disposed of. The plan for disposal of these soils is to have any soils which do not meet the OSDF WAC shipped to Envirocare consistent with the process used for waste pit materials, and any soils which are above the final remediation levels (FRLs) and meet the OSDF WAC be disposed of in the OSDF. Section C.6.2.2 of the IT Subcontract provides that Fluor Fernald will direct IT on the excavation of these subsoils. The basis of that direction will be characterization efforts undertaken by Fluor Fernald, following the excavation of the pit materials. For the purposes of this plan, IT will excavate those soils which will go to Envirocare, and SDFP will excavate soils to be transferred to the OSDF for disposal.

To support this directed excavation, the plan is to characterize the soils beneath the waste pits (as well as the berm areas in and around the pits) through two sampling campaigns. The first campaign will involve the characterization of the soils beneath Pits 1, 2, and 3. Following this sampling effort, Fluor Fernald will characterize the soils beneath the remaining pits (i.e., Pits 4, 5, 6, the Burn Pit, and the Clearwell). This characterization will take the form of borings in each of the pits and the berms. In addition to demonstrating the interface between what can and cannot go to the OSDF (i.e., to support IT subsoil excavation activities), this sampling effort will also support future soils excavation activities to be conducted by SDFP in attainment of the FRLs. Included in this characterization effort will be characterization necessary to satisfy the requirements of 1910.120 (including appropriate IH screening).

R1-D-281

The actual sampling to be performed for the characterization of Pits 1, 2, and 3, will take place between October 2003 and February 2004, and will be performed by the Fluor Fernald Environmental Monitoring organization. Through this effort 51 soil borings will be taken, with 28 of this total being taken from the soils beneath the pits themselves, and 23 from the berms around these pits.

The number of borings for sampling within the Waste Pit is based on one-fourth the number of Certification Unit sampling locations that would be needed for that area. All borings within the pit subsoils will be completed to a depth of 10 feet with 6-inch sample intervals collected every foot. From these sub-pit borings, 140 samples will be analyzed at an on-site laboratory and 280 will be analyzed off-site.

All subsurface soil samples will be analyzed for the full list of VOAs, SVOAs, pesticides, and PCBs. In addition, samples from the first five feet will be analyzed for total uranium, Th-228, Th-232, Ra-226, Ra-228, Th-230, Tc-99, arsenic, beryllium, silver, cadmium, and antimony. Although samples from the second five feet will be archived for possible later analyses (i.e., for metals and radionuclides), if contamination is not bounded in the first five feet, this analytical effort is not included in the costs for this plan.

Berm samples will be taken every 180 – 200 feet around the perimeter of each pit, and will be taken to a depth of ten feet below the bottom elevation of the adjoining pit. Borings in a berm between two pits will be used for characterization of both pits. For Pits 1, 2, and 3 this equates to boring depths of 33 feet for Pit 1, 26 feet for Pit 2, and 37 feet for Pit 3.

Because WAC compliance is the primary concern for the berm material between the surface and the bottom elevation of the associated waste pit, samples will be collected every 5 feet for approximately the first half of each boring. Field screening will ensure that any suspected above-WAC soil between the sample intervals are identified and sampled. Because less contamination is expected in the berms as compared to below the waste pits, samples from the remainder of the boring will be collected every two feet.

The berm samples will be analyzed for the same analytes listed above for waste pit subsoil sampling, with the exception of the last three sample intervals for each boring. Those intervals will not be analyzed for radiologicals/metals, but archived samples will be collected. These archived samples will be used later if radiological/metal contamination is not yet bounded. From these borings in the berms in and around Pits 1, 2, and 3, 282 samples will be analyzed at an on-site laboratory and 291 will be analyzed off-site.

2.1)2 Quantification – Characterization of Pit 1, 2 and 3 Subsoils

To determine the resources needed by the Environmental Monitoring organization and Analytical Laboratory Services, the above information was provided to SDFP. Using an estimating tool, SDFP produced estimates of the personnel resources needed to manage this sampling/analysis effort. Table 18 provides a summary of the identified manpower needs.

Table 18

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Industrial Mechanic	.1	4 th Quarter of FY03
Environmental Scientist Rep	1.6	1 st & 2 nd Quarter of FY04
Environmental Scientist Tech	.8	1 st Quarter of FY04
Chemist	1	1 st & 2 nd Quarter of FY04
Rad Tech	.2	1 st & 2 nd Quarter of FY04
Lab Tech	2.7	1 st & 2 nd Quarter of FY04

Table 19 provides a summary of the analyses to be performed by on- and off-site laboratories in support of the subsurface soils characterization effort for Pits 1, 2, and 3.

Table 19

Analyses	QUANTITY	NEEDS ASSESSMENT
Alpha/Beta Screens	571	Analysis performed by on-site lab
Gamma Spec Analysis	422	Analysis performed by on-site lab
Alpha Spec Analysis	422	Analysis performed by on-site lab
Tc-99 Analysis	422	Analysis performed by on-site lab
Metals	422	Analysis performed by on-site lab
SVOA Analysis	571	Analysis performed by off-site lab
PCB Analysis	571	Analysis performed by off-site lab
Pesticide Analysis	571	Analysis performed by off-site lab
VOA Analysis	571	Analysis performed by off-site lab

3.0 Task #3 – Characterization of Remaining Waste Pit Subsoils

3.1)1 Plan/Scope – Characterization of Remaining Waste Pit Subsoils

As stated under Task #2 of Section 1.5.4, Fluor Fernald is responsible for characterization of the soils beneath the pits, in support of directing IT in the excavation of these soils. To support this directed excavation, the plan is to characterize the soils beneath the waste pits through two sampling campaigns. The first campaign will involve the characterization of the soils beneath Pits 1, 2, and 3. Following this sampling effort, Fluor Fernald will characterize the soils beneath the remaining pits (i.e., Pits 4, 5, 6, the Burn Pit, and the Clearwell). This characterization will take the form of borings in each of the pits. In addition to demonstrating the interface between what can and cannot go to the OSDF (i.e., to support IT subsoil excavation activities), this sampling effort will also support future soils excavation activities to be conducted by SDFP in attainment of the FRLs. Included in this characterization effort will be characterization necessary to satisfy the requirements of 1910.120 (including appropriate IH screening).

R1-D-281

The actual sampling to be performed for the characterization of Pits 4, 5, 6, the Burn Pit, and the Clearwell, will take place between March 2004 and July 2004, and will be

performed by the Fluor Fernald Environmental Monitoring organization. Through this effort 61 soil borings will be taken, with 32 of this total being taken from the soils beneath the pits themselves, and 29 from the berms around these pits.

As with the effort undertaken for Pit 1, 2, and 3, the number of borings for sampling within the Waste Pit is based on one-fourth the number of Certification Unit sampling locations that would be needed for that area. All borings within the pit subsoils will be completed to a depth of 10 feet with 6-inch sample intervals collected every foot. From these sub-pit soil borings, 160 samples will be analyzed at an on-site laboratory and 320 will be analyzed off-site.

All subsurface soil samples will be analyzed for the full list of VOAs, SVOAs, pesticides, and PCBs. In addition, samples from the first five feet will be analyzed for total uranium, Th-228, Th-232, Ra-226, Ra-228, Th-230, Tc-99, arsenic, beryllium, silver, cadmium, and antimony. Although samples from the second five feet will be archived for possible later analyses (i.e., for metals and radionuclides), if contamination is not bounded in the first five feet, this analytical effort is not included in the costs for this plan.

Berm samples will be taken every 180 – 200 feet around the perimeter of each pit, and will be taken to a depth of ten feet below the bottom elevation of the adjoining pit. Borings in a berm between two pits will be used for characterization of both pits. For the remaining pits, this equates to boring depths of 36 feet for Pit 4, 40 feet for Pit 5, 34 feet for Pit 6, and 37 feet for the Clearwell. The Burn Pit does not have any unique berm sample locations because characterization of the Burn Pit berms is performed through characterization of the surrounding Pit 1, 3, 4, and 5 berms. From these borings in the berms in and around Pits 4, 5, 6, the Burn Pit and the Clearwell, 287 samples will be analyzed at an on-site laboratory and 334 will be analyzed off-site.

3.1)2 Quantification – Characterization of Remaining Waste Pit Subsoils

To determine the resources needed by the Environmental Monitoring Organization and Analytical Laboratory Services, the above information was provided to SDFP. Using an estimating tool, SDFP produced estimates of the personnel resources needed to manage this sampling/analysis effort. Table 20 provides a summary of the identified manpower needs.

Table 20

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Industrial Mechanic	.1	2 nd Quarter of FY04
Environmental Scientist Rep	1	2 nd , 3 rd & 4 th Quarter of FY04
Environmental Scientist Tech	1	2 nd & 3 rd Quarter of FY04
Chemist	.6	3 rd & 4 th Quarter of FY04
Rad Tech	.4	2 nd & 4 th Quarter of FY04
Lab Tech	1.4	3 rd & 4 th Quarter of FY04

Table 21 provides a summary of the analyses to be performed by on- and off-site laboratories in support of the subsurface soils characterization effort for Pits 4, 5, 6, the Burn Pit, and the Clearwell.

Table 21

Analyses	QUANTITY	NEEDS ASSESSMENT
Alpha/Beta Screens	654	Analysis performed by on-site lab
Gamma Spec Analysis	447	Analysis performed by on-site lab
Alpha Spec Analysis	447	Analysis performed by on-site lab
Tc-99 Analysis	447	Analysis performed by on-site lab
Metals	447	Analysis performed by on-site lab
SVOA Analysis	654	Analysis performed by off-site lab
PCB Analysis	654	Analysis performed by off-site lab
Pesticide Analysis	654	Analysis performed by off-site lab
VOA Analysis	654	Analysis performed by off-site lab

3) Task #4 – Real-Time Scanning

4.1)1 Plan/Scope – Real-Time Scanning

As indicated in the discussion for Tasks #3 and #4 of this section, IT soils excavation activities will be performed using the data gathered through the borings in the soils below the pits and in the berms in and around the pits. After IT soils excavation activities have been completed, Fluor Fernald will perform real-time scanning of the surface, with the RTRAK, to ascertain that all of the soils which exceed the OSDF WAC have been removed. This activity will be performed by a Motor Vehicle Operator.

4.1)2 Quantification – Real-Time Scanning

Table 22

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Motor Vehicle Operator	.2	1 st and 2 nd Quarters of FY05

SECTION 2

2.0 SCHEDULE

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
F PBS 05 WASTE PITS															
1.1.F.B LOAD OUT OPERATIONS															
FCBB3 IT SUBCONTRACT															
FHBB3L1510	Load Out Ops, 95,919Tons	01DEC00	28SEP01	208											
FHBB3MM540	Med. Monitoring/Enh. Air Sampl --1671 Samples	01DEC00	28SEP01	208											
FHBB3PM544	Bonds & Insurance	01DEC00	24NOV04	997											
FHBB3GT548	Gamma Spec Training	01DEC00	24AUG05	1,183											
FHBB3HF545	HEPA Filter Testing	01DEC00	24AUG05	1,183											
FHBB3PM546	Pugmill Engineering Evaluation	04JAN01	30MAR01	61											
FHBB3MW547	Maintenance Building Wall	29JAN01	16FEB01	15											
FHBB3TR549	Trailer Relocation	15FEB01	13MAR01	18											
FHBB3PM543	Thorium Sampling	16APR01	19APR02	254											
FHBB3PM510	Pugmill System Design	01AUG01	26OCT01	62											
FHBB3EP410	Enh. Pit 4 - Procure Add't Equipment	17SEP01	08NOV01	39											
FHBB3EP400	Enh. Pit 4 - Documentation Preparation	17SEP01*	30NOV01	52											
FHBB3L1520	Load Out Ops, 136,000 Tons	01OCT01	30SEP02	250											
FHBB3MM550	Med. Monitoring/Enh. Air Sampling - 2005 Samples	01OCT01	30SEP02	250											
FHBB3PM515	Procure Pugmill System	11OCT01	02JAN02	54											
FHBB3EM500	ERNM - Design, Procure & Construct Facility	22OCT01*	10APR02	115											
FHBB3PM520	Review/Approval of CFC Package	29OCT01	09NOV01	10											
FHBB3EP420	Enh. Pit 4 - Construct Transfer Bin	02NOV01	16NOV01	10											
FHBB3PM530	Pugmill System Construction	13NOV01	14JAN02	40											
FHBB3EP430	Enh. Pit 4 - Training of GCBCCTC Workers	19NOV01	27NOV01	5											

FLUOR FERNALD

© Primavera Systems, Inc.

Start Date: 01DEC00
 Finish Date: 30SEP05
 Data Date: 01DEC00
 Run Date: 10SEP01 15:56

WASTE PITS

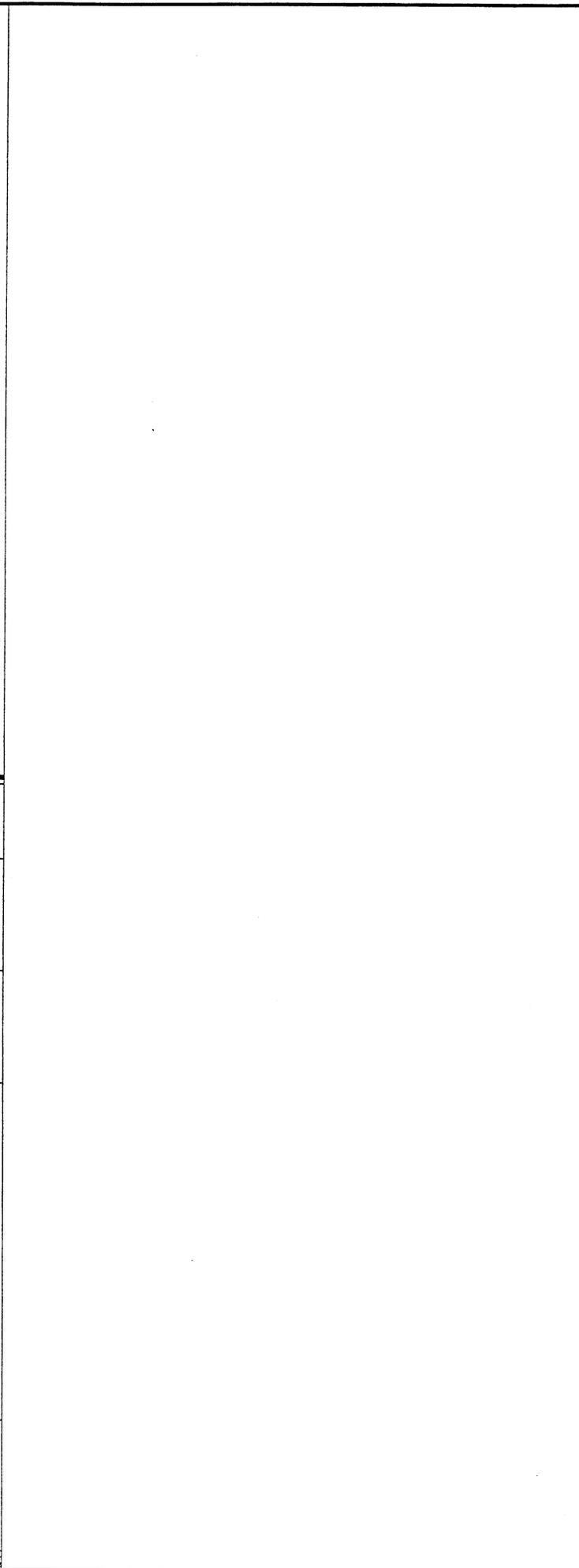
1.1.F.B LOAD OUT OPERATIONS

Sheet 1 of 3

Early Bar
Progress Bar
Critical Activity

Date	Revision	Checked/Approved
D-367		
F05-005		
F05-007		
F05-008		
F05-009		

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur	Fiscal Year															
					FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11					
FCBB3 IT SUBCONTRACT																				
FHBB3RE520	Demobilization	25AUG05	22SEP05	20																
FCBB5 FF OPERATIONS STAFF																				
FHBB5OV500	Operations Oversight	01DEC00	24AUG05	1,060																
FCBBC WASTE PIT AREA CHARACTERIZATION																				
FHBBCC500	RCRA Characterization of Burn Pit	15AUG01	14DEC01	75																
FHBBCC510	Characterization of Pit 1, 2 & 3 Subsoils	02SEP03	19MAR04	123																
FHBBCC520	Characterization of Remaining Waste Pit Subsoil	05MAR04	23AUG04	107																
FHBBCC530	Real-Time Scanning	01DEC04	31JAN05	36																
FCBBX FF OPERATIONS LABOR & MAINTENANCE																				
FHBBXH500	FF Operations Labor & Maintenance	01DEC00	24AUG05	1,728																



FLUOR FERNALD	Start Date	01DEC00	BLCF - FH01	Sheet 3 of 3	WASTE PITS	Early Bar Progress Bar Critical Activity	Date	Revision	Checked/Approved
	Finish Date	30SEP05							
	Data Date	01DEC00			1.1.F.B LOAD OUT OPERATIONS				
	Run Date	10SEP01 15:56							

© Primavera Systems, Inc.

SECTION 2

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1FB02 FATL&C OPERATIONS LABOR & MAINTENANCE

DRIVERS	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
501 D & D OF RAILCARS																								
502 WASTE PIT SHIP/DISPOSAL OPERATIONS																								
503 WASTE PITS OPERATIONS DEMOB																								
504 WASTE PIT OPERATIONS																								
Transportation Labor	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0.7	0	0
Locomotive Switchman																								
General Labor	26	26	22	21	22	22	22	22	22	22	22	22	22	22	22	22	21	7	0	0	0	0	0	0
Porter	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.3	1	0.7	0	0	0	0
General Laborer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.3	0	0	0	0	0	0
Transportation Laborer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.3	0	0	0	0	0	0
Motor Vehicle Operator	1	1	1	1	1	1.6	2	2	2	2	1.7	1	1	1	1	1	1	1	1	1	1	1	1	0.7
Laundry Worker	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	3	1	0.7	0	0	0	0
Respirator Washer	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	1	0.7	0	0	0	0
Professional Warehouse Attendant	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.3	2	1.3	0	0	0	0
Hazwat	13	13	13	13	13	13	14.2	18	18	18	18	16.3	13	13	13	13	13	6.3	2	1.3	0	0	0	0
Heavy Equipment Operator	13	13	13	13	13	13	13.6	14	14	14	14	13.7	13	13	13	13	13	4.3	0	0	0	0	0	0
Electrician	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	2.7	0	0	0	0	0	0
Millwright	6	6	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	5	0	0	0	0	0	0
Instrument Mechanic	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	0	0	0	0	0	0
Pipefitter	6	6	6	6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0
Weilder	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
Carpenter	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	0	0	0	0	0	0
Industrial Mechanic	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0.7	0	0	0	0	0	0
Oiler (Maintenance)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.3	0	0	0	0	0	0

Sheet Totals:	1723.40	102.0	102.0	98.00	97.00	95.00	95.00	97.40	102.0	102.0	102.0	99.70	95.00	95.00	95.00	94.00	41.90	8.00	5.40	0.00	0.00	0.00	0.00
----------------------	---------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------	------	------	------	------	------

Manpower Planning Sheet (CR2)

MPS # 1FB03 OPERATIONS OVERSIGHT

DRIVERS	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
501 D & D OF RAILCARS																								
502 WASTE PIT SHIP/DISPOSAL OPERATIONS	03/21/2005	09/22/2005	08/01/2005	09/22/2005	1.8	1.8	1.8	1.8	1	1	1	1	1	1	1	1	1	1	1	1	1	0.2	0	0
503 WASTE PITS OPERATIONS DEMOB	10/02/2000	08/01/2005	10/03/2005	09/02/2005	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
504 WASTE PIT OPERATIONS	09/02/2005	03/31/2005	10/03/2005	09/02/2005	5	5	5	5	6	6	6.3	7	7	7	7	6.7	6	6	6	6	6	2.3	1	0.7
	10/02/2000	03/31/2005	10/03/2005	09/02/2005	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7
					2.3	2.3	2.3	2.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Project Management		Tech/Program Support Rep.			1.6	1.6	1.6	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maintenance		Maintenance Rep.			3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	1.3	0	0
Maintenance		Project Support Manager			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1.3	0	0
Construction		Construction Engineer			4	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	0.7	0	0
QA/QC		QA/QC Tech.			1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operations Labor		Engineer, Process & Startup			1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maintenance		Maintenance Manager			3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1.3	0	0
Construction		Construction Coordinator			4	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	0.7	0	0
Environmental		Environmental Protection Rep.			1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Environmental Safety & H		Safety Engineer			0.3	0.3	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Environmental Safety & H		Industrial Hygienist			2.8	2.8	2.8	2.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Training		Training Representative			1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Environmental Safety & H		Rad Tech			0.8	0.8	0.8	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lab		Chemist			28	28	28	28	26	27	27.7	28	28	28	28	27.7	27	26	26	26	26	12.1	5.1	3.3
Environmental		Environmental Scientist Rep.			4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	1.5	1	0.5	0.2
Operations		Operations Manager			0.7	0.7	0.7	0.7	1	1	1	1	1	1	1	1	1	1	1	1	1	0.3	0	0
Environmental Safety & H		Health Physics Tech.			1.3	1.3	1.3	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Information Management		Information Records Rep.			0.3	0.3	0.3	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration		Clerks			0.3	0.3	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Human Resources & Publ		Photographer/Graphics Rep.			0.2	0.2	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Environmental Safety & H		Rad Supervisor/Manager			0.9	0.9	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waste Management		Waste Engineer			1.7	1.7	1.7	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Management		Tech/Program Support Mgr.			0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0.3	0	0
Sheet Totals:					930.20	64.10	65.30	66.60	64.30	47.60	48.60	49.60	50.60	50.60	50.00	48.60	47.60	47.60	47.60	46.10	20.50	8.20	5.50	

930.20 64.10 65.30 66.60 64.30 47.60 48.60 49.60 50.60 50.60 50.00 48.60 47.60 47.60 47.60 46.10 20.50 8.20 5.50 0.00 0.00 0.00 0.00

Manpower Planning Sheet (CR2)

MPS # 1FB04 WASTE PIT AREA CHARACTERIZATION

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																
501 D & D OF RAILCARS	03/21/2005	09/22/2005																									
502 WASTE PIT SHIP/DISPOSAL OPERATIONS	10/02/2000	08/01/2005	3.60	0	0	0	0.3	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
503 WASTE PITS OPERATIONS DEMOB	09/02/2005	10/03/2005																									
504 WASTE PIT OPERATIONS	10/02/2000	03/31/2005	8.20	0	0	0	0.5	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Environmental	Environmental Scientist Rep.																										
Environmental	Environmental Scientist Tech.																										
Craft Labor	Industrial Mischanic		0.30	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Environmental Safety & H	Rad Tech		1.50	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0.2	0.6	0	0.4	0	0	0	0
Lab	Lab Tech.		8.90	0	0	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0	2.7	2.7	1.4	1.4	0	0	0	0
Lab	Chemist		3.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.1	0.6	0.6	0	0	0	0
Transportation Labor	Motor Vehicle Operator		0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.2	0	0	0
Sheet Totals:				26.20	0.00	0.00	0.50	0.90	2.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	6.30	8.10	4.00	3.80	0.20	0.00	0.00	0.00	

SECTION 2

4.0 ESTIMATE

FCBB3

IT SUBCONTRACT

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

PBS: OHFN05
WBS: 1.1.F.B
CTRL ACCT: FCBB
CHARGE NO: FCBB3
COMMENT NO: F-05-007, F-05-008, F-05-009

Resource: Res Dept:	USUBS 947	UNESCALATED SUBS		Class:		EOC:		SUBCONTRACTORS				
		Overtime:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Yr Units:		20,469,655.8	24,686,162.0	19,902,195.3	18,234,389.3	15,623,112.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:		20,469,655.8	45,155,817.8	65,058,013.1	83,292,402.5	98,915,514.5	98,915,514.5	98,915,514.5	98,915,514.5	98,915,514.5	98,915,514.5	98,915,514.5
Yr Total Cost:		20,469,656	24,686,162	19,902,195	18,234,389	15,623,112	0	0	0	0	0	0
Cum Total Cost:		20,469,656	45,155,818	65,058,013	83,292,402	98,915,514	98,915,514	98,915,514	98,915,514	98,915,514	98,915,514	98,915,514

GRAND TOTALS:

Yr Total Cost:	Cum Total Cost:	Oct 00- Sep 01		Oct 01- Sep 02		Oct 02- Sep 03		Oct 03- Sep 04		Oct 04- Sep 05		Oct 05- Sep 06		Oct 06- Sep 07		Oct 07- Sep 08		Oct 08- Sep 09		Oct 09- Sep 10	
				20,469,656	20,469,656	24,686,162	45,155,818	19,902,195	38,058,013	18,234,389	56,292,402	15,623,112	71,915,514	0	71,915,514	0	71,915,514	0	71,915,514	0	71,915,514

CAM *Mark Cherry* CONTROL TEAM *Karl Spring*

FCBB5

**FLUOR FERNALD OPERATIONS OVERSIGHT
STAFF**

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05

WBS: 1.1.F.B

CTRL ACCT: FCBB

CHARGE NO: FCBB5

COMMENT NO: F-05-001, F-05-006, F-05-009

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Karl Spring

FISCAL YEAR: 01-05

Resource: ENPREP
Res Dept: 947

ENVIR PROTECTION REP
Overtime:

Class: LABOR

EOC: SAL

Yr	Hours	EOC	SAL																	
Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
Sep 01	435.6	Sep 02	0.0	Sep 03	0.0	Sep 04	0.0	Sep 05	0.0	Sep 06	0.0	Sep 07	0.0	Sep 08	0.0	Sep 09	0.0	Sep 10	0.0	
Cum Hours:	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6	435.6
Yr Total Cost:	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057
Cum Total Cost:	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057	21,057

Resource: ENSREP
Res Dept: 947

ENVIR SCIENCE REP
Overtime:

Class: LABOR

EOC: SAL

Yr	Hours	EOC	SAL																	
Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
Sep 01	1,547.3	Sep 02	1,747.0	Sep 03	1,747.0	Sep 04	1,747.0	Sep 05	521.0	Sep 06	0.0	Sep 07	0.0	Sep 08	0.0	Sep 09	0.0	Sep 10	0.0	
Cum Hours:	1,547.3	3,294.3	5,041.3	6,788.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3	7,309.3
Yr Total Cost:	64,925	77,158	81,726	86,545	86,545	86,545	86,545	86,545	27,340	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	64,925	142,083	223,809	310,354	337,694	337,694	337,694	337,694	337,694	337,694	337,694	337,694	337,694	337,694	337,694	337,694	337,694	337,694	337,694	337,694

Resource: HLPTEC
Res Dept: 947

HEALTH PHYSICS TECH
Overtime:

Class: LABOR

EOC: SAL

Yr	Hours	EOC	SAL																	
Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
Sep 01	1,887.6	Sep 02	0.0	Sep 03	0.0	Sep 04	0.0	Sep 05	0.0	Sep 06	0.0	Sep 07	0.0	Sep 08	0.0	Sep 09	0.0	Sep 10	0.0	
Cum Hours:	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6	1,887.6
Yr Total Cost:	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556
Cum Total Cost:	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556	64,556

Resource: INDHYG
Res Dept: 947

INDUSTRIAL HYGIENIST
Overtime:

Class: LABOR

EOC: SAL

Yr	Hours	EOC	SAL																	
Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
Sep 01	1,452.0	Sep 02	0.0	Sep 03	0.0	Sep 04	0.0	Sep 05	0.0	Sep 06	0.0	Sep 07	0.0	Sep 08	0.0	Sep 09	0.0	Sep 10	0.0	
Cum Hours:	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0	1,452.0
Yr Total Cost:	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402
Cum Total Cost:	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402	67,402

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Kari Spring
FISCAL YEAR: 01-05

PBS: OHFN05

WBS: 1.1.F.B

CTRL ACCT: FCBB

CHARGE NO: FCBB5

COMMENT NO: F-05-001, F-05-006, F-05-009

Resource: INRREP INFO RECORDS REP EOC: LABOR
Res Dept: 947 Overtime: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20
Yr Hours:	334.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6	334.6
Yr Total Cost:	9,931	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931	9,931

Resource: LABCHM CHEMIST EOC: LABOR
Res Dept: 947 Overtime: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20
Yr Hours:	5,808.0	5,241.0	5,241.0	5,241.0	1,294.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	5,808.0	11,049.0	16,290.0	21,531.0	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3	22,825.3
Yr Total Cost:	225,118	213,822	226,481	239,834	62,740	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	225,118	438,940	665,421	905,255	967,995	967,995	967,995	967,995	967,995	967,995	967,995	967,995	967,995	967,995	967,995	967,995	967,995	967,995	967,995	967,995

Resource: MAT300 MATERIAL OBJCLASS300 EOC: MATERIAL
Res Dept: 947 Overtime: MAT

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20
Yr Units:	225,000.0	300,000.0	300,000.0	300,000.0	150,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	225,000.0	525,000.0	825,000.0	1,125,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0	1,275,000.0
Yr Total Cost:	225,000	308,100	316,419	325,278	167,193	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	225,000	533,100	849,519	1,174,797	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990	1,341,990

Resource: MNTMGR MAINTENANCE MGR EOC: LABOR
Res Dept: 947 Overtime: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20
Yr Hours:	8,352.0	8,736.0	8,736.0	8,736.0	4,205.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	8,352.0	17,088.0	25,824.0	34,560.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0	38,765.0
Yr Total Cost:	446,053	498,941	528,480	559,637	269,694	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	446,053	944,994	1,473,475	2,033,111	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805	2,302,805

Fluor Fernald, Inc.

PBS: OHFN05
WBS: 1.1.F.B
CTRL ACCT: FCBB
CHARGE NO: FCBB5
COMMENT NO: F-05-001, F-05-006, F-05-009

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

Resource:	Res Dept:	MNTREP	947	MAINTENANCE REP		LABOR		EOC:				
				Overtime:	Class:	SAL	Class:	SAL	Class:	SAL		
Yr Hours:		Oct 00- Sep 01	1,452.0	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		1,452.0	3,199.0	4,946.0	6,693.0	7,080.0	7,080.0	7,080.0	7,080.0	7,080.0	7,080.0	7,080.0
Yr Total Cost:		50,457	63,900	71,674	71,674	71,674	71,674	71,674	71,674	71,674	71,674	71,674
Cum Total Cost:		50,457	114,357	182,040	253,714	270,533	270,533	270,533	270,533	270,533	270,533	270,533

Resource:	Res Dept:	ODCTRL	947	TRAVEL RESOURCE		EOC:						
				Overtime:	Class:	SAL	Class:	SAL				
Yr Units:		Oct 00- Sep 01	5,000.0	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Units:		5,000.0	10,000.0	15,000.0	20,000.0	25,000.0	25,000.0	25,000.0	25,000.0	25,000.0	25,000.0	25,000.0
Yr Total Cost:		5,000	5,135	5,274	5,421	5,573	5,573	5,573	5,573	5,573	5,573	5,573
Cum Total Cost:		5,000	10,135	15,409	20,830	26,403	26,403	26,403	26,403	26,403	26,403	26,403

Resource:	Res Dept:	OPRMGR	947	OPERATIONS MGR		EOC:						
				Overtime:	Class:	SAL	Class:	SAL				
Yr Hours:		Oct 00- Sep 01	1,452.0	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		1,452.0	3,199.0	4,946.0	6,693.0	7,080.0	7,384.5	7,384.5	7,384.5	7,384.5	7,384.5	7,384.5
Yr Total Cost:		75,911	96,135	101,827	107,830	45,212	45,212	45,212	45,212	45,212	45,212	45,212
Cum Total Cost:		75,911	172,046	273,873	381,703	426,915	426,915	426,915	426,915	426,915	426,915	426,915

Resource:	Res Dept:	PHOGRA	947	PHOTO/GRAPHICS REP		EOC:						
				Overtime:	Class:	SAL	Class:	SAL				
Yr Hours:		Oct 00- Sep 01	290.4	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4
Yr Total Cost:		8,096	8,096	8,096	8,096	8,096	8,096	8,096	8,096	8,096	8,096	8,096
Cum Total Cost:		8,096	8,096	8,096	8,096	8,096	8,096	8,096	8,096	8,096	8,096	8,096

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05

WBS: 1.1.F.B

CTRL ACCT: FCBB

CHARGE NO: FCBB5

COMMENT NO: F-05-001, F-05-006, F-05-009

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Karl Spring

FISCAL YEAR: 01-05

Resource:	Res Dept:	PJS MGR	947	PROJECT SUPPORT MGR	Class:	EOC:		LABOR						
						Overtime:	SAL	Oct 00-	Oct 01-					
Yr Hours:						Oct 00- Sep 01	Oct 01- Sep 02	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
						10,099.0	12,806.4	12,230.0	6,058.8	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:						537,334	707,584	483,962.6	55,021.4	55,021.4	55,021.4	55,021.4	55,021.4	55,021.4
Cum Total Cost:						537,334	1,244,918	2,808,972	3,191,560	3,191,560	3,191,560	3,191,560	3,191,560	3,191,560

Resource:	Res Dept:	PJS REP	947	PROJECT SUPPORT REP	Class:	EOC:		LABOR						
						Overtime:	SAL	Oct 00-	Oct 01-					
Yr Hours:						Oct 00- Sep 01	Oct 01- Sep 02	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
						5,366.0	3,494.0	3,494.0	1,078.5	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:						218,772	149,940	158,817	54,990	16,926.5	16,926.5	16,926.5	16,926.5	16,926.5
Cum Total Cost:						218,772	368,712	695,710	750,700	750,700	750,700	750,700	750,700	750,700

Resource:	Res Dept:	QA/TEC	947	QA/QC TECH	Class:	EOC:		LABOR						
						Overtime:	SAL	Oct 00-	Oct 01-					
Yr Hours:						Oct 00- Sep 01	Oct 01- Sep 02	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
						3,339.6	1,048.2	1,048.2	926.4	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:						103,127	34,070	38,215	35,777	7,410.6	7,410.6	7,410.6	7,410.6	7,410.6
Cum Total Cost:						103,127	137,197	211,500	247,276	247,276	247,276	247,276	247,276	247,276

Resource:	Res Dept:	RAD MGR	947	RAD SUPERVISOR/MGR	Class:	EOC:		LABOR						
						Overtime:	SAL	Oct 00-	Oct 01-					
Yr Hours:						Oct 00- Sep 01	Oct 01- Sep 02	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
						1,306.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:						78,160	1,306.8	1,306.8	1,306.8	1,306.8	1,306.8	1,306.8	1,306.8	1,306.8
Cum Total Cost:						78,160	78,160	78,160	78,160	78,160	78,160	78,160	78,160	78,160

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

PBS: OHFN05

WBS: 1.1.F.B

CTRL ACCT: FCBB

CHARGE NO: FCBB5

COMMENT NO: F-05-001, F-05-006, F-05-009

Resource: TPSREP TECH/PROG SUPT REP

Res Dept: 947 Overtime: EOC: SAL

LABOR

EOC: SAL

Class:

Yr	Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	2,613.6	1,747.0	1,747.0	1,747.0	7,854.6	8,375.6	8,375.6	8,375.6	8,375.6	8,375.6	8,375.6
Yr Total Cost:	135,803	4,360.6	6,107.6	101,203	107,170	33,856	0	0	0	0	0
Cum Total Cost:	135,803	231,350	332,553	439,723	473,579	473,579	473,579	473,579	473,579	473,579	473,579

Resource: TRNREP

Res Dept: 947 Overtime: EOC: SAL

LABOR

EOC: SAL

Class:

Yr	Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	706.4	706.4	706.4	706.4	706.4	706.4	706.4	706.4	706.4	706.4	706.4
Yr Total Cost:	29,655	706.4	706.4	706.4	706.4	706.4	706.4	706.4	706.4	706.4	706.4
Cum Total Cost:	29,655	29,655	29,655	29,655	29,655	29,655	29,655	29,655	29,655	29,655	29,655

Resource: WSTENG

Res Dept: 947 Overtime: EOC: SAL

LABOR

EOC: SAL

Class:

Yr	Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4
Yr Total Cost:	125,962	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4	2,468.4
Cum Total Cost:	125,962	125,962	125,962	125,962	125,962	125,962	125,962	125,962	125,962	125,962	125,962

GRAND TOTALS:

Yr	Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	114,224.6	103,688.6	105,894.6	101,302.8	40,343.5	465,464.1	465,464.1	465,464.1	465,464.1	465,464.1	465,464.1
Yr Total Cost:	4,962,380	217,923.2	323,817.7	425,120.5	465,464.1	2,236,675	0	0	0	0	0
Cum Total Cost:	4,962,380	9,714,877	14,894,989	20,039,994	22,276,669	22,276,669	22,276,669	22,276,669	22,276,669	22,276,669	22,276,669

CAM

CONTROL TEAM

FCBBC

WASTE PIT AREA CHARACTERIZATION

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05

WBS: 1.1.F.

CTRL ACCT: FCBB

CHARGE NO: FCBBC

COMMENT NO: F-05-001, F-05-006

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Kari Spring

FISCAL YEAR: 01-05

Resource: ENSREP ENVIR SCIENCE REP EOC: LABOR
Res Dept: 947 Overtime: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20	
Yr Hours:	304.5	348.0	0.0	2,227.4	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9	2,879.9
Cum Hours:	304.5	652.5	652.5	2,879.9	5,759.8	8,639.7	11,519.6	14,399.5	17,279.4	20,159.3	23,039.2	25,919.1	28,799.0	31,678.9	34,558.8	37,438.7	40,318.6	43,198.5	46,078.4	48,958.3	51,838.2
Yr Total Cost:	12,777	15,370	0	110,341	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488	138,488
Cum Total Cost:	12,777	28,147	28,147	138,488	276,976	415,464	553,952	692,440	830,928	969,416	1,107,904	1,246,392	1,384,880	1,523,368	1,661,856	1,800,344	1,938,832	2,077,320	2,215,808	2,354,296	2,492,784

Resource: ENSTEC ENVIR SCIENTIST TECH EOC: LABOR
Res Dept: 947 Overtime: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20	
Yr Hours:	132.3	220.0	0.0	1,032.6	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9	1,384.9
Cum Hours:	132.3	352.3	352.3	1,384.9	2,769.8	4,154.7	5,539.6	6,924.5	8,309.4	9,694.3	11,079.2	12,464.1	13,849.0	15,233.9	16,618.8	18,003.7	19,388.6	20,773.5	22,158.4	23,543.3	24,928.2
Yr Total Cost:	3,747	6,568	0	34,525	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830	44,830
Cum Total Cost:	3,747	10,305	10,305	44,830	89,660	134,490	179,320	224,150	268,980	313,810	358,640	403,470	448,300	493,130	537,960	582,790	627,620	672,450	717,280	762,110	806,940

Resource: INDMEC INDUSTRIAL MECHANIC EOC: LABOR
Res Dept: 947 Overtime: HOU

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20
Yr Hours:	31.4	12.9	16.8	39.4	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5
Cum Hours:	31.4	44.3	61.1	100.5	201.0	301.5	402.0	502.5	603.0	703.5	804.0	904.5	1,005.0	1,105.5	1,206.0	1,306.5	1,407.0	1,507.5	1,608.0	1,708.5
Yr Total Cost:	989	427	589	1,463	3,468	3,468	3,468	3,468	3,468	3,468	3,468	3,468	3,468	3,468	3,468	3,468	3,468	3,468	3,468	3,468
Cum Total Cost:	989	1,416	2,005	3,468	6,936	10,404	13,872	17,340	20,808	24,276	27,744	31,212	34,680	38,148	41,616	45,084	48,552	52,020	55,488	58,956

Resource: LABCHM CHEMIST EOC: LABOR
Res Dept: 947 Overtime: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20
Yr Hours:	0.0	0.0	0.0	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6	1,250.6
Cum Hours:	0.0	0.0	0.0	1,250.6	2,501.2	3,751.8	5,002.4	6,253.0	7,503.6	8,754.2	10,004.8	11,255.4	12,506.0	13,756.6	15,007.2	16,257.8	17,508.4	18,759.0	20,009.6	21,260.2
Yr Total Cost:	0	0	0	57,228	114,456	171,684	228,912	286,140	343,368	400,596	457,824	515,052	572,280	629,508	686,736	743,964	801,192	858,420	915,648	972,876
Cum Total Cost:	0	0	0	57,228	114,456	228,912	343,368	457,824	572,280	686,736	801,192	915,648	1,030,104	1,144,560	1,259,016	1,373,472	1,487,928	1,602,384	1,716,840	1,831,296

Fluor Fernald, Inc.

PBS: OHFN05

WBS: 1.1.F.

CTRL ACCT: FCBB

CHARGE NO: FCBBC

COMMENT NO: F-05-001, F-05-006

GRAND TOTALS:

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Karl Spring

FISCAL YEAR: 01-05

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-		
	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20	
Yr Hours:	468.2	1,490.1	1,506.9	8,151.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0	9,870.0
Cum Hours:	17,513	104,206	589	1,324,845	7,652	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yr Total Cost:	17,513	121,719	122,308	1,447,153	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805
Cum Total Cost:	17,513	121,719	122,308	1,447,153	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805	1,454,805

CAM *Mark Cherry*

CONTROL TEAM *Karl Spring*

FCBBX

**FLUOR FERNALD OPERATIONS LABOR AND
MAINTENANCE**

Fluor Fernald, Inc.

PBS: OHFN05

DATE: 9/8/01

WBS: 1.1.F.

PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Kart Spring
FISCAL YEAR: 01-05

CTRL ACCT: FCBB

CHARGE NO: FCBBX

COMMENT NO: F-05-001, F-05-006, F-05-009

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

Resource:	Res Dept:	CHMOPR 947	CHEMICAL OPERATOR Overtime:	LABOR																			
				Class:		EOC:		HOU		EOC:		HOU		EOC:		HOU							
				Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:				Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Cum Hours:				42,164.2	43,423.0	43,423.0	43,423.0	12,377.0	0.0	0.0	0.0	0.0	0.0	184,810.2	184,810.2	184,810.2	184,810.2	184,810.2	184,810.2	184,810.2	184,810.2	184,810.2	184,810.2
Yr Total Cost:				1,423,896	1,559,386	1,651,701	1,749,087	517,548	0	0	0	0	0	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618
Cum Total Cost:				1,423,896	2,983,281	4,634,983	6,384,069	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618	6,901,618

Resource:	Res Dept:	CRPNTR 947	CARPENTER Overtime:	LABOR																			
				Class:		EOC:		HOU		EOC:		HOU		EOC:		HOU							
				Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:				Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Cum Hours:				3,054.0	4,890.0	6,726.0	8,562.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0	9,128.0
Yr Total Cost:				96,905	61,300	64,929	88,759	22,794	0	0	0	0	0	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687
Cum Total Cost:				96,905	158,206	223,135	291,894	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687	314,687

Resource:	Res Dept:	ELECTN 947	ELECTRICIAN Overtime:	LABOR																			
				Class:		EOC:		HOU		EOC:		HOU		EOC:		HOU							
				Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:				Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Cum Hours:				9,350.0	13,096.0	13,096.0	13,096.0	3,982.0	0.0	0.0	0.0	0.0	0.0	52,620.0	52,620.0	52,620.0	52,620.0	52,620.0	52,620.0	52,620.0	52,620.0	52,620.0	52,620.0
Yr Total Cost:				342,725	499,192	528,745	559,922	180,394	0	0	0	0	0	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978
Cum Total Cost:				342,725	841,917	1,370,662	1,930,584	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978	2,110,978

Resource:	Res Dept:	GLMNT 947	GEN LABOR MAINT Overtime:	LABOR																			
				Class:		EOC:		HOU		EOC:		HOU		EOC:		HOU							
				Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:				Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Cum Hours:				1,527.0	1,836.0	1,836.0	1,836.0	566.0	0.0	0.0	0.0	0.0	0.0	7,600.9	7,600.9	7,600.9	7,600.9	7,600.9	7,600.9	7,600.9	7,600.9	7,600.9	7,600.9
Yr Total Cost:				36,235	48,375	51,239	54,261	17,988	0	0	0	0	0	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098
Cum Total Cost:				36,235	86,611	137,850	192,110	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098	210,098

Fluor Fernald, Inc.

PBS: OHFN05

WBS: 1.1.F.

CTRL ACCT: FCBB

CHARGE NO: FCBBX

COMMENT NO: F-05-001, F-05-006, F-05-009

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Kari Spring

FISCAL YEAR: 01-05

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

Resource: Res Dept:	HAZWAT 947	HAZWAT Overtime:	LABOR											
			Class:	EOC: HOU	Class:	EOC: HOU								
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10		
Cum Hours:			20,671.1	27,655.6	32,893.8	24,908.0	9,124.0	0.0	0.0	0.0	0.0	0.0		
Yr Total Cost:			634,385	888,766	1,109,515	903,492	339,717	0	0	0	0	0		
Cum Total Cost:			634,385	1,523,151	2,632,667	3,536,159	3,875,875	3,875,875	3,875,875	3,875,875	3,875,875	3,875,875		

Resource: Res Dept:	HEOOPR 947	HEAVY EQUIP OPERATOR Overtime:	LABOR											
			Class:	EOC: HOU	Class:	EOC: HOU								
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10		
Cum Hours:			20,671.1	25,618.8	26,505.2	24,908.0	7,078.0	0.0	0.0	0.0	0.0	0.0		
Yr Total Cost:			693,218	905,479	990,172	989,228	291,340	0	0	0	0	0		
Cum Total Cost:			693,218	1,598,698	2,588,870	3,578,098	3,869,438	3,869,438	3,869,438	3,869,438	3,869,438	3,869,438		

Resource: Res Dept:	INDMEC 947	INDUSTRIAL MECHANIC Overtime:	LABOR											
			Class:	EOC: HOU	Class:	EOC: HOU								
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10		
Cum Hours:			3,054.0	3,682.0	3,682.0	3,682.0	1,132.0	0.0	0.0	0.0	0.0	0.0		
Yr Total Cost:			101,179	6,736.0	10,418.0	14,100.0	15,232.0	15,232.0	15,232.0	15,232.0	15,232.0	15,232.0		
Cum Total Cost:			101,179	229,690	365,808	509,952	557,490	557,490	557,490	557,490	557,490	557,490		

Resource: Res Dept:	INSMEC 947	INSTRUMENT MECHANIC Overtime:	LABOR											
			Class:	EOC: HOU	Class:	EOC: HOU								
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10		
Cum Hours:			5,401.0	6,548.0	6,548.0	6,548.0	1,958.0	0.0	0.0	0.0	0.0	0.0		
Yr Total Cost:			193,739	11,949.0	18,497.0	25,044.9	27,002.9	27,002.9	27,002.9	27,002.9	27,002.9	27,002.9		
Cum Total Cost:			193,739	441,982	704,920	983,360	1,071,136	1,071,136	1,071,136	1,071,136	1,071,136	1,071,136		

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01

PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

PBS: OHFN05
WBS: 1.1.F.
CTRL ACCT: FCBB
CHARGE NO: FCBBX
COMMENT NO: F-05-001, F-05-006, F-05-009

Resource:	Res Dept:	LAUNDRY 947	LAUNDRY WORKER		Class:	EOC:		LABOR					
			OverTime:	EOC:		HOU	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02		Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			11,509.0	13,892.0		13,892.0	53,185.0	58,430.0	58,430.0	58,430.0	58,430.0	58,430.0	58,430.0
Yr Total Cost:			305,921	389,496		412,555	436,877	172,520	0	0	0	0	0
Cum Total Cost:			305,921	695,417		1,107,972	1,544,848	1,717,368	1,717,368	1,717,368	1,717,368	1,717,368	1,717,368

Resource:	Res Dept:	LOCSWIM 947	LOCOMOTIVE SWITCHMAN		Class:	EOC:		LABOR					
			OverTime:	EOC:		HOU	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02		Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			3,054.0	3,672.0		3,672.0	14,070.0	15,202.0	15,202.0	15,202.0	15,202.0	15,202.0	15,202.0
Yr Total Cost:			98,439	124,542		131,916	139,692	46,308	0	0	0	0	0
Cum Total Cost:			98,439	222,981		354,897	494,589	540,898	540,898	540,898	540,898	540,898	540,898

Resource:	Res Dept:	MILLWRT 947	MILLWRIGHT		Class:	EOC:		LABOR					
			OverTime:	EOC:		HOU	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02		Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			16,951.8	23,984.2		23,974.0	23,974.0	7,732.0	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:			701,292	1,041,908		1,103,221	1,168,269	392,224	0	0	0	0	0
Cum Total Cost:			701,292	1,743,199		2,846,420	4,014,690	4,406,914	4,406,914	4,406,914	4,406,914	4,406,914	4,406,914

Resource:	Res Dept:	MVOOPR 947	MOTOR VEHICLE OPER		Class:	EOC:		LABOR					
			OverTime:	EOC:		HOU	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02		Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			1,527.0	2,546.8		3,433.1	1,836.0	1,589.0	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:			45,150	78,716		111,896	64,074	58,163	0	0	0	0	0
Cum Total Cost:			45,150	123,866		235,762	299,836	358,000	358,000	358,000	358,000	358,000	358,000

Fluor Fernald, Inc.

PBS: OHFN05

WBS: 1.1.F.

CTRL ACCT: FCBB

CHARGE NO: FCBBX

COMMENT NO: F-05-001, F-05-006, F-05-009

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Kari Spring

FISCAL YEAR: 01-05

Resource:	OILERM	OILER MAINTENANCE	EOC:	LABOR	EOC:	LABOR
Res Dept:	947	Class:	HOU	Class:	HOU	Class:
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06
Cum Hours:	1,937.0 1,937.0	2,267.0 4,204.0	2,267.0 6,471.0	2,267.0 8,737.9	9,433.9 9,433.9	9,433.9 9,433.9
Yr Total Cost:	57,908	70,673	74,857	79,269	26,034	0
Cum Total Cost:	57,908	128,580	203,437	282,706	308,740	308,740

Resource:	PIPFTR	PIPE FITTER	EOC:	LABOR	EOC:	LABOR
Res Dept:	947	Overtime:	HOU	Class:	HOU	Class:
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06
Cum Hours:	10,802.1 10,802.1	5,752.0 16,554.1	5,752.0 22,306.1	5,752.0 28,058.1	1,652.0 29,710.1	0.0 29,710.1
Yr Total Cost:	382,787	243,286	257,689	272,882	81,513	0
Cum Total Cost:	382,787	626,074	883,763	1,156,645	1,238,158	1,238,158

Resource:	PORTER	PORTER	EOC:	LABOR	EOC:	LABOR
Res Dept:	947	Overtime:	HOU	Class:	HOU	Class:
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06
Cum Hours:	3,054.0 3,054.0	3,672.0 6,726.0	3,672.0 10,398.0	3,672.0 14,070.0	2,154.0 16,224.0	16,224.0 16,224.0
Yr Total Cost:	77,536	98,100	103,908	110,034	67,675	0
Cum Total Cost:	77,536	175,637	279,545	389,578	457,254	457,254

Resource:	PROWHA	PROF WAREHOUSE ATTN	EOC:	LABOR	EOC:	LABOR
Res Dept:	947	Overtime:	HOU	Class:	HOU	Class:
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06
Cum Hours:	5,401.0 5,401.0	6,548.0 11,949.0	6,548.0 18,497.0	6,548.0 25,044.9	2,981.0 28,025.9	28,025.9 28,025.9
Yr Total Cost:	163,990	210,142	222,582	235,704	109,316	0
Cum Total Cost:	163,990	374,132	596,714	832,418	941,734	941,734

Fluor Fernald, Inc.

PBS: OHFN05

WBS: 1.1.F.

CTRL ACCT: FCBB

CHARGE NO: FCBBX

COMMENT NO: F-05-001, F-05-006, F-05-009

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Karri Spring

FISCAL YEAR: 01-05

Resource: RSPWSH RESPIRATOR WASHER EOC: LABOR
 Res Dept: 947 Overtime: HOU

	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Yr Hours:	6,928.1	8,384.0	8,384.0	8,384.0	3,547.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	6,928.1	15,312.1	23,696.1	32,080.1	35,627.0	35,627.0	35,627.0	35,627.0	35,627.0	35,627.0
Yr Total Cost:	201,663	257,737	272,995	289,088	125,230	0	0	0	0	0
Cum Total Cost:	201,663	459,399	732,395	1,021,483	1,146,713	1,146,713	1,146,713	1,146,713	1,146,713	1,146,713

Resource: TRNLAB TRANSPORT LABORER EOC: LABOR
 Res Dept: 947 Overtime: HOU

	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Yr Hours:	1,527.0	1,836.0	1,836.0	1,836.0	566.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	1,527.0	3,362.9	5,198.9	7,034.9	7,600.9	7,600.9	7,600.9	7,600.9	7,600.9	7,600.9
Yr Total Cost:	38,611	48,850	51,742	54,794	18,164	0	0	0	0	0
Cum Total Cost:	38,611	87,461	139,203	193,997	212,161	212,161	212,161	212,161	212,161	212,161

Resource: WELDER WELDER EOC: LABOR
 Res Dept: 947 Overtime: HOU

	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Yr Hours:	5,401.0	2,876.0	2,876.0	2,876.0	826.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	5,401.0	8,277.0	11,152.9	14,028.9	14,854.9	14,854.9	14,854.9	14,854.9	14,854.9	14,854.9
Yr Total Cost:	192,801	122,538	129,792	137,445	41,054	0	0	0	0	0
Cum Total Cost:	192,801	315,339	445,131	582,576	623,631	623,631	623,631	623,631	623,631	623,631

GRAND TOTALS:

	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Yr Hours:	173,984.1	199,125.3	206,126.0	194,945.8	64,902.9	0.0	0.0	0.0	0.0	0.0
Cum Hours:	173,984.1	373,109.4	579,235.4	774,181.3	839,084.2	839,084.2	839,084.2	839,084.2	839,084.2	839,084.2
Yr Total Cost:	5,790,380	7,025,241	7,668,511	7,735,462	2,643,296	0	0	0	0	0
Cum Total Cost:	5,790,380	12,815,621	20,484,132	28,219,594	30,862,890	30,862,890	30,862,890	30,862,890	30,862,890	30,862,890

CAM *March* *Karri Spring*
 CONTROL TEAM

SECTION 2

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: Load/Excavate		PBS Number: 05		Total Baseline Dollars (Minimum Case):		\$153,509,879				
Evaluator: Dalga		Date: April 20, 2001		WBS Number: 1.1.F.B						
Control Account Number: FCBB		Potential Impact		Internal Or External Driver		Impact Cost (Maximum Case)				
Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost (Maximum Case)	Risk Level	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Waste Processing	Minor delays due to utility shortfalls, groundwater intrusion, funding shortfall and/or processing delays	Internal	\$2,000,000.00	3	70	4	4	\$1,400,000.00		5 Reduce Risk
Waste Shipping	Major delays due to railcar leaking, railcar accident, etc	Internal	\$6,000,000.00	4	5	1	1	\$300,000.00		3 Reduce Risk
Waste Processing	Higher density and optimum moisture waste causes an additional 100,000 tons extension to process	Internal	\$20,000,000.00	5	95	5	5	\$19,000,000.00	R1-D-680 R1-E-764	1-2 Accept
Waste Processing	Higher density and optimum moisture waste causes an additional 80,000 tons extension to process	Internal	\$16,000,000.00	5	70	4	4	\$11,200,000.00		1-2 Reduce/Mitigate
Waste Processing	Higher density and optimum moisture waste causes an additional 80,000 tons extension to process	Internal	\$16,000,000.00	5	50	3	3	\$6,000,000.00		1-2 Reduce/Mitigate
Waste Processing	Higher density and optimum moisture waste causes an additional 80,000 tons extension to process	Internal	\$16,000,000.00	5	5	5	5	\$15,000,000.00	R1-D-357	1-2 Reduce/Mitigate
Subsoils Excavation	Delays due to sequencing changes in subsoil excavation and dryer utilization	Internal	\$3,000,000.00	3	60	4	4	\$1,800,000.00		5 Reduce/Mitigate
Subsoils Excavation	Additional 1 ft of pit surface soils goes to operation	Internal	\$10,000,000.00	5	50	3	3	\$6,000,000.00	R1-D-680	1-0 Accept
Subsoils Excavation	Additional 1 ft of pit surface soils goes to operation	Internal	\$10,000,000.00	5	50	3	3	\$6,000,000.00		1-0 Accept

Risk/Opportunity Identification and Analysis Form

Project: Load/Excavate		PBS Number: 05		Total Baseline Dollars (Minimum Case):		\$153,509,879				
Evaluator: Dalga		Date: April 20, 2001		WBS Number: 1.1.F.B						
CAM: Dennis Dalga		Date: April 20, 2001		Control Account Number: FCBB						
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Waste Processing	Additional controls required for addressing radiological airborne levels	3 month schedule extension and cost increase	Internal	\$3,000,000.00	3	25	2	\$750,000.00	3	Accept
Waste Processing	Differing site conditions	Treat and process additional volumes	Internal	\$10,000,000.00	5	50	3	\$5,000,000.00	10	Accept
Pit Excavatio	Pit 4 has different excavation and handling strategy	6 month schedule extension and cost increase to Pit 4	Internal	\$1,500,000.00	3	90	5	\$1,350,000.00	6	Accept
				Total:				\$38,100,000.00		

Waste Shipping	Major delays due to Ecare shutdown	6 month schedule extension	External	\$6,000,000.00	4	25	2	\$1,500,000.00	5	
Waste Processing	Additional tonnage due to Th-230 constraints at Envirocare	Additional 160,000 tons to be loaded, 15 month extension	External	\$35,000,000.00	5	70	4	\$24,500,000.00	11	
				Total:						

WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE OF CONTRACT 12/01/2000	
3. IDENTIFICATION NUMBER DE-AC24-01OH20115		4. INDEX LINE NO. 44	
5. WBS ELEMENT CODE 1.1.F.C		6. WBS ELEMENT TITLE SHIP / DISPOSAL OPERATIONS	
7. APPROVED CP NO. NEW PER CP# FY01-0115-0005-00		8. DATE OF CHANGES 12/01/2000	
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA		10. BUDGET AND REPORTING NUMBER EW05H3050	

11. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
 Materials
 ODC's
 Subcontracts

b. TECHNICAL CONTENT:

Shipping and disposal operations consist of the activities to support and perform the shipment of treated waste meeting the WAC via covered, lined gondola railcars to Envirocare for final disposition.

Activities included in this element are defined in the following Work Scope Definition Work Packages:

FDEC5 Shipping and Disposal Oversight Staff
 FDECR Railcar Shipping
 FDECF Railcar Disposition

c. SCOPE OF WORK:

Shipping and Disposal scope includes the following activities:

Preparation of shipping documents required for shipping and delivery to Envirocare
 Material Control and Accountability for radiological accountability
 Interface with CSXT, Union Pacific Railroad (UPRR) and Envirocare
 Rail Operations training
 Operation of the railyard
 Acquisition of railcar lids, locomotives, and other rail infrastructure
 Trackmobile, locomotive, rail scale, and rail line maintenance

U.S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE OF CONTRACT 12/01/2000							
3. IDENTIFICATION NUMBER DE-AC24-01OH20115			4. INDEX LINE NO. 44						
5. WBS ELEMENT CODE 1.1.F.C		6. WBS ELEMENT TITLE SHIP / DISPOSAL OPERATIONS							
7. APPROVED CP NO. NEW PER CP# FY01-0115-0005-00			8. DATE OF CHANGES 12/01/2000						
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA		10. BUDGET AND REPORTING NUMBER EW05H3050							
11. ELEMENT TASK DESCRIPTION <p align="center">Disposition of railcars and locomotives</p> <p>Work scope is further defined in the following Work Scope Definition Work Packages:</p> <table> <tr> <td>FDEC5</td> <td>Shipping and Disposal Oversight Staff</td> </tr> <tr> <td>FDECR</td> <td>Railcar Shipping</td> </tr> <tr> <td>FDECF</td> <td>Railcar Disposition</td> </tr> </table>				FDEC5	Shipping and Disposal Oversight Staff	FDECR	Railcar Shipping	FDECF	Railcar Disposition
FDEC5	Shipping and Disposal Oversight Staff								
FDECR	Railcar Shipping								
FDECF	Railcar Disposition								

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.C	4. WBS ELEMENT TITLE/NAME SHIP / DISPOSAL OPERATIONS
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 5/05
--	--

12. TASK IDENTIFICATION (CONTROL ACCOUNT) FDEC	13. TASK DESCRIPTION (ONE LINE) SHIPPING AND DISPOSAL OPERATIONS
--	--

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Subcontracts
Materials
ODCs

b. TECHNICAL CONTENT:

Shipping and disposal operations includes all of the activities and resources necessary to support and perform the shipment of treated waste meeting WAC via covered, lined gondola railcars, and disposal of wastes from these railcars at the Envirocare of Utah site.

Estimated waste to be shipped in tons to Envirocare is 540,579.

Work scope and exclusions are further defined in the following Work Scope Definition Work Packages:

FDEC5 Shipping and Disposal Oversight Staff
FDECR Railcar Shipping
FDECF Railcar Disposition

c. SCOPE OF WORK:

The scope of work for this control account includes:

Rail Operations training
Train Crew selection and training

Project Manager <i>Mark [Signature]</i>	Control Account Manager <i>Mark [Signature]</i>	Control Team Manager <i>Kari [Signature]</i>
--	--	---

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.C	4. WBS ELEMENT TITLE/NAME SHIP / DISPOSAL OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 5/05	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) FDEC	13. TASK DESCRIPTION (ONE LINE) SHIPPING AND DISPOSAL OPERATIONS		

14. ELEMENT TASK DESCRIPTION

Emergency Response
 Maintenance of locomotives, railcars, trackage and switches
 Calibration and repair of rail scale
 Operation of Rail Yard
 Shipping documentation required for unit train departure to Envirocare
 Interface with DOE, CSXT/UPPR Railroads and Envirocare to ensure safe arrival/departure of unit trains
 Rail car decontamination and disposition
 Locomotive/Trackmobile decontamination
 Diesel fuel and sand for locomotive operation
 Anti-C's, safety clothing for rail yard personnel and supplies for rail yard operation
 Travel for project related requirements

d. WORK SPECIFICALLY EXCLUDED:

Exclusions are further detailed in the following Work Scope Definition Work Packages:

FDEC5 Shipping and Disposal Oversight Staff
 FDECR Railcar Shipping
 FDECF Railcar Disposition

Additionally excluded is work specifically defined in support of the following PBS05 WBS elements:

1.1.F.A Management
 1.1.F.B Load Out Operations
 1.1.F.D Non-Typical Waste

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.C	4. WBS ELEMENT TITLE/NAME SHIP / DISPOSAL OPERATIONS
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 3/05
--	--

12. TASK IDENTIFICATION (WORK PACKAGE) FDEC5	13. TASK DESCRIPTION (ONE LINE) SHIPPING AND DISPOSAL OVERSIGHT STAFF
--	---

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Materials
Subcontracts
ODCs

b. TECHNICAL CONTENT:

Ship/Disposal Operations and Oversight work scope consists the labor work force and oversight required for the shipment of treated waste meeting the applicable Waste Acceptance Criteria (WAC) via covered, lined railcar for disposal to Envirocare.

Estimated waste shipped in tons to Envirocare is 540,579.

The activities associated with this work package are:

On-site Rail Operations
Off-site Rail Operations

Project Manager <i>March O...</i>	Control Account Manager <i>March O...</i>	Control Team Manager <i>Rui Spring</i>
--------------------------------------	--	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.C	4. WBS ELEMENT TITLE/NAME SHIP / DISPOSAL OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 3/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FDEC5	13. TASK DESCRIPTION (ONE LINE) SHIPPING AND DISPOSAL OVERSIGHT STAFF		

14. ELEMENT TASK DESCRIPTION

c. SCOPE OF WORK:

Shipping and Disposal Oversight Staff provides the labor and oversight required for the operational cycle for Shipping and Disposal activities.

On-site rail operations is comprised of railcar movements, and inspections and maintenance of the railcars, the locomotives, and the tracks. Railcar movements includes a description of the daily movements of the railcars, unit train assembly and departure, unit train return and receipt, integration with on-site groups (i.e. radiological surveys), and track access controls. Inspections and maintenance includes the responsibilities of the train and maintenance crews, on-site equipment maintenance, and the inspection and maintenance of the locomotives, railcars, tracks and switches. This scope includes all materials required for maintenance and/or operation of the railyard.

Shipping and Disposal Oversight is also responsible for providing the resources necessary to perform the semi-annual calibration of the rail scale located within the IT facility. This activity will be performed with support from Fluor Fernald Operations Oversight personnel, utilizing subcontractors. The subcontractor will be responsible for providing the necessary calibration equipment. Shipping and Disposal Oversight will be responsible for providing replacement/spare parts for the rail scale, as necessary.

As required (i.e., either annually or semi-annually), personnel assigned to support on-site rail operations will need to attend refresher/requalification training specific to operating equipment and/or performing other activities in and around a rail facility. This training will be provided to WPRAP personnel through a qualified subcontractor.

Offsite Rail Operations is responsible for all documentation necessary for railcar departures to Envirocare for final waste disposition. Work activities

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 3
3. WBS ELEMENT CODE 1.1.F.C	4. WBS ELEMENT TITLE/NAME SHIP / DISPOSAL OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 3/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FDEC5	13. TASK DESCRIPTION (ONE LINE) SHIPPING AND DISPOSAL OVERSIGHT STAFF		

14. ELEMENT TASK DESCRIPTION

include review of IT Corporation data, verification of data in order to meet the WAC for Envirocare, preparation of the nuclear transfer forms, and certification to ensure the waste meets the definition of DOT LSA-1 Waste for shipment.

Beginning in FY02, this scope also includes maintenance, as required, of the track mobile, locomotive, rail scale and rail line.

Also includes scope for project related travel.

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements and work packages within Control Account FDEC:

- 1.1.F.A Management
- 1.1.F.B Load Out Operations
- 1.1.F.D Non-Typical Waste
- FDECR - Railcar Shipping
- FDECF - Railcar Disposition

Excluded is the cost for disposal at Envirocare, this is paid for by DOE

Excluded beginning in FY02 is winter protective gear for Fluor Fernald personnel, this will be provided by PBS01

Excluded beginning in FY02 is project support by the Waste Acceptance Organization (WAO)

Excluded beginning in FY02 is any security resources associated with maintaining access at the old north entrance road

Excluded beginning in FY02 is any security resources required for maintaining continuous coverage when the unit train is in the FEMP enclave awaiting pickup by CSXT

Excluded beginning in FY02 is maintenance of Fluor Fernald facilities

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.C	4. WBS ELEMENT TITLE/NAME SHIP / DISPOSAL OPERATIONS
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 5/05
--	--

12. TASK IDENTIFICATION (WORK PACKAGE) FDECF	13. TASK DESCRIPTION (ONE LINE) RAILCAR DISPOSITION
--	---

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

LABOR
MATERIAL

b. TECHNICAL CONTENT:

Railcar disposition is the work scope for the decontamination of the rail cars, the locomotive and trackmobile assigned for use by the Waste Pits Project.

The activities associated with this work package are:

Decontamination of railcars
Decontamination of locomotives
Decontamination of trackmobile

c. SCOPE OF WORK:

Under DOE's disposal contract with Envirocare, DOE can exercise an option for the final cleaning of railcars for unlimited release. WPRAP plans on this option being exercised for the FEMP railcars, beginning with railcars shipped under unit trains transporting waste in January 2005 (i.e., for the last three unit trains).

At that time, this final cleaning will be performed by Envirocare under line item 0018 of the DOE contract. The direct cost for decontamination of the

Project Manager <i>March [Signature]</i>	Control Account Manager <i>March [Signature]</i>	Control Team Manager <i>Kare [Signature]</i>
---	---	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.C	4. WBS ELEMENT TITLE/NAME SHIP / DISPOSAL OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 5/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FDECF	13. TASK DESCRIPTION (ONE LINE) RAILCAR DISPOSITION		

14. ELEMENT TASK DESCRIPTION

railcars (to be paid through the DOE contract with Envirocare) is \$600 per railcar, with the costs covered in DOE's account.

Fluor Fernald is responsible for performing the decontamination of the locomotives and the trackmobile in the Locomotive Maintenance Facility. The locomotives and the trackmobile will be radiological surveyed to ensure the decontamination effort was complete.

At the completion of this effort, the railcars and locomotives will be made available for use by another DOE facility. The trackmobile will remain on site to support the movement of railcars used by other projects (e.g. Soils and/or Aquifer).

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements and work packages within Control Account FDEC:

1.1.F.A Management

1.1.F.B Load Out Operations

1.1.F.D Non-Typical Waste

FDECR Railcar Shipping

FDEC5 Shipping and Disposal Oversight Staff

Excluded is the cost for disposal at Envirocare, this is paid for by DOE

Excluded is the cost for decontamination of the railcars by Envirocare, this is paid for by DOE.

Excluded are any costs for D&D of the Locomotive Maintenance Facility, the office trailers or the tracks, this is covered in PBS02.

Excluded are any costs for D&D of the railyard, this is covered in PBS06.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.C	4. WBS ELEMENT TITLE/NAME SHIP / DISPOSAL OPERATIONS
---------------------------------------	--

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 3/05
--	--

12. TASK IDENTIFICATION (WORK PACKAGE) FDECR	13. TASK DESCRIPTION (ONE LINE) RAILCAR SHIPPING
--	--

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Subcontracts
Materials

b. TECHNICAL CONTENT:

Railcar Shipment Operations is the work scope for the tender agreement between the Department of Energy and CSX Transportation/Union Pacific Railroads.

Estimated waste shipped in tons to Envirocare is 540,579
The waste will be transported in lined covered gondola railcars.

The activities associated with this work package are:

Shipping/return of railcars to/from Envirocare

c. SCOPE OF WORK:

Railcar Shipment Operations is the operational cycle for shipment activities as defined in the tender with DOE and CSXT/UPPR railroads. Railcars loaded with treated waste, via the IT Waste Pits Processing Facility, are shipped by CSXT/UPPR railroads for delivery to Envirocare. After Envirocare has emptied the railcars, CSXT/UPPR will return the railcars to the FEMP. This is an

Project Manager <i>[Signature]</i>	Control Account Manager <i>[Signature]</i>	Control Team Manager <i>[Signature]</i>
---------------------------------------	---	--

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.C	4. WBS ELEMENT TITLE/NAME SHIP / DISPOSAL OPERATIONS		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 3/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FDECR	13. TASK DESCRIPTION (ONE LINE) RAILCAR SHIPPING		

14. ELEMENT TASK DESCRIPTION

ongoing cyclic process. This work scope covers only the shipment activities associated with the tender. The number of unit trains expected to be shipped is 86.

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements and work packages within Control Account FDEC:

- 1.1.F.A - Waste Pits Project Management
- 1.1.F.B - Waste Pits Operations
- 1.1.F.D - Non-Typical Waste

FDEC5 - Shipping and Disposal Oversight Staff
FDECF - Railcar Disposition

Excluded is the cost for disposal at Envirocare, this will be paid by DOE

SECTION 3

1.0 NARRATIVE

1. PROJECT TITLE: WASTE PITS PROJECT	2. DATE: 09/10/01	3. PBS#: 05
4. WBS ELEMENT CODE: 1.1.F.C.	5. WBS ELEMENT TITLE: SHIPPING AND DISPOSAL OPERATIONS	
6. CAM NAME/ PHONE: MARK CHERRY	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9. CONTROL ACCOUNT: FDEC	

SECTION 3: FDEC – SHIPPING AND DISPOSAL OPERATIONS

1.0 NARRATIVE

1.1 OVERVIEW

Shipping and disposal operations includes all of the activities and resources necessary to support and perform the shipment via covered, lined gondola railcars, and disposal of wastes from these railcars at the Envirocare of Utah site.

1.1.1 FDEC5 – Shipping and Disposal Oversight Staff

Fluor Fernald is responsible for the performance of activities associated with the shipment and disposal of the waste pit materials. Shipping activities include: preparation of shipping documents; interface with both CSXT and the Union Pacific Railroad (UPRR); and operations of on-site railyard. Disposal activities include: preparation of documentation to support disposal at Envirocare; and interface between WPRAP and Envirocare.

1.1.2 FDECR – Railcar Shipping

Loaded railcars are transported to Envirocare by CSXT/UPRR. The shipping costs, and the mechanisms by which these shipments will occur, are detailed in a tender between UPRR and DOE.

1.1.3 FDECF – Railcar Disposition

Following completion of shipping and disposal activities, all of the railcars and the three locomotives, will be decontaminated for free-release to another DOE facility.

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

1.2.1.1 FDEC5 – Shipping and Disposal Oversight Staff

1. The quantity of as-loaded waste materials (i.e., pit materials, waste pit subsoils, and/or soils from other FEMP projects) destined for disposal at Envirocare will not exceed 540,579 tons.

2. A maximum of 21 unit trains can be shipped in a Fiscal Year, with one train leaving the site an average of every 2½ weeks.
3. Each unit train consists of 60 railcars of material.
4. Each railcar loaded by IT will contain an average of 107.94 tons of material.
5. All waste, as loaded by IT into the railcars, will meet the PCDF WAC and DOT LSA-I requirements.
6. The maximum tonnage which can be shipped in any given Fiscal Year is limited to 136,000 tons.
7. The Envirocare WAC will not change throughout the duration of the project, such that more stringent requirements (e.g., for documentation) are imposed on the project.
8. All wastes generated by the remediation of the waste pits, for shipment via railcar, are assumed to be Class A, Low-Level Radioactive Wastes that can be shipped as Low Specific Activity (LSA) wastes, depleted or enriched less than one percent.
9. DOT requirements will not change throughout the duration of the project, such that the planned bulk shipment of the above materials is altered (i.e., made more stringent).
10. All railcar loadout activities, are to be conducted, using a four-day per week, ten hour per day shift, Monday through Thursday. IT will be loading no more that eight railcars a day, with four empty cars delivered to IT twice a day, and four full railcars received from IT twice a day.
11. Shipping and disposal operation functions will continue through March 2005 to support the completion of waste processing activities performed by IT Corporation in support of WPRAP remediation.
12. Shipping and disposal operations will be accomplished utilizing the existing fleet of 170 gondola railcars, three locomotives, and one trackmobile.
13. No major repairs (i.e., beyond those types of repairs which have been performed), or replacment, are planned for the railcars, the locomotives, or the trackmobile, through completion of shipping and disposal operations in March 2005. Each railcar will require two sets of brake shoes replaced for the duration of the project.

14. No major repairs (i.e., beyond those types of repairs which have been performed), or replacement, are planned for the rail tracks, switches, etc., through completion of shipping and disposal operations in March 2005. Track inspections will be performed by a rail contractor in 2002 and 2004 to verify the condition of the on-site rail.
15. No more than one "bad order" railcar will require repair en-route, during each of the years FY01-FY05.
16. Within seven days of IT providing data which supports that the material loaded into railcars meets the Envirocare WAC, WPRAP shipping and disposal operations personnel (in conjunction with WAO and Waste Characterization personnel), will complete its review of the data and prepare the documentation necessary to manifest the railcars.
17. The WPRAP profile for disposal at Envirocare will be updated once a year for the remaining years of the project to reflect changes in the waste pit characteristics (e.g., due to excavations beginning in new pits).
- | |
|----------|
| R1-D-359 |
| R1-D-499 |

 18. ~~From the time that a unit train leaves the FEMP, it will take an average of 16 days (in transit) for it to be hauled to Envirocare, unloaded, and then returned to the FEMP.~~
19. Subcontractor services will be available to support the semiannual certification of the railscale.
20. From 3rd quarter FY03 through 3rd quarter FY04, the Silo 3 project will be utilizing eight of the railcars assigned to WPRAP. During this same year, five railcars of Silo 3 material will be sent out with each unit train, through a total of 20 unit trains.
21. WPRAP shipping and disposal oversight staff will prepare the final shipping and disposal documents for the specific Silo 3 shipments, using analytical data and other information prepared by Silo 3 personnel.

1.2.1.2 FDECR – Railcar Shipping

1. Using a total of 540,579 tons of as-loaded waste material, for the remainder of the project, and an assumed average of 107.94 tons per railcar, the project will ship 5,008 more railcars of waste pit materials.
2. WPRAP will ship 100 railcars of Silo 3 material. Specifically, from 3rd quarter FY03 through 3rd quarter FY04, five railcars of Silo 3 material will be sent out with each WPRAP unit train, through a total of 20 unit trains.

3. A maximum of 21 unit trains can be shipped in a Fiscal Year, with one train leaving the site an average of every 2½ weeks.
4. Each unit train consists of 60 railcars of material.
5. ~~From the time that a unit train leaves the FEMP, it will take an average of 16 days (in transit) for it to be hauled to Envirocare, unloaded, and then returned to the FEMP.~~
6. Wastes can continue to be shipped through the current tender between DOE and UPRR, at rates consistent with those in the tender.

R1-D-359

R1-D-499

1.2.1.3 FDECF – Railcar Disposition

1. Railcar disposition activities can begin as soon as specific railcars are no longer required to support WPRAP waste shipment activities.
2. IT will transfer ownership of the railcar covers to DOE, upon completion of all shipment activities, at no additional cost to the project.
3. Final cleaning of the railcars (including the covers) for unlimited release (in accordance with Envirocare's Radioactive Material License and 49 CFR) will be performed by the Envirocare facility upon notification by the FEMP and DOE that the railcar is no longer required for shipment of materials from the waste pits. This will be done at a cost of \$600 per railcar, as stated in the DOE contract with Envirocare (#DE-AM24-98OH20053).
4. The Envirocare final cleaning costs are covered in DOE's account.
5. Based on the current waste quantities, and the planned shipping rates, the last three unit trains will be transported to Envirocare in January and February of 2005. Based on a limitation in the Envirocare contract of a maximum of final cleaning of 75 railcars in any 30-day period, all final cleaning shall be completed by Envirocare by April 2005.
6. Decontamination of the locomotives will be performed by Fluor Fernald personnel, and will be completed in April/May 2005.
7. The railcars (including covers) and the locomotives can be released to another governmental entity (e.g., DOE), through the Government Excess Surplus Program, without performing any additional cleaning/decontamination beyond that planned herein.

8. The trackmobile will be decontaminated in April 2005, and will remain on site for use in support assembly of railcars for transport off-site to another DOE facility, and for movement of other railcars (e.g., intermodals) used in support of other FEMP remediation efforts.
9. Following the specified decontamination, DOE will assume responsibility for coordinating the eventual dispositioning of the subject rail equipment through the Government Excess Surplus Program.

1.2.2 Exclusions

1.2.2.1 FDEC5 – Shipping and Disposal Oversight Staff

1. Beginning in FY02, any programmatic labor costs, such as QA, OA, PA, etc., will not be covered by the project.
2. Beginning in FY02, winter protective gear for any Fluor Fernald personnel shall be provided by PBS-01.
3. Beginning in FY02, project support by the Waste Acceptance Organization (WAO) will not be covered by the project.
4. The cost for disposal at Envirocare, which is paid for by DOE.
5. Beginning in FY02, security resources associated with maintaining access at the old north entrance road, as well as for maintaining continuous security coverage when the unit train is in the FEMP enclave awaiting pickup by CSXT, shall be provided by PBS-12.
6. Beginning in FY02, the maintenance of Fluor Fernald facilities (i.e., office trailers and locomotive maintenance building).
7. The resources needed to update the profile for the disposal of WPRAP wastes at Envirocare, to include wastes from other FEMP projects. For example, Silo 3 will be responsible for profiling the waste sent to Envirocare through the WPRAP unit trains.

1.2.2.2 FDECR – Railcar Shipping

None

1.2.2.3 FDECF – Railcar Disposition

1. D&D Project (i.e., PBS-02) is responsible for the D&D of the Locomotive Maintenance Facility, the office trailers, and the tracks.

2. Soils and Disposal Facility Project is responsible for the D&D of the railyard.

1.2.3 Government-Furnished Equipment/Services

1.2.3.1 FDEC5 – Shipping and Disposal Oversight Staff

1. The services provided through the DOE Ohio Field Office, for the disposal of waste at Envirocare, through its contract with Envirocare (#DE-AM24-98OH20053). These services must be available, uninterrupted, to receive at least 138,000 tons/year until project completion.
2. The 170 DOE-owned gondola railcars. These railcars must be continuously available through the life of the project.
3. The shipping services provided by DOE, through its tender with UPRR, for the transportation of WPRAP wastes from the FEMP to Envirocare. These services must be available, uninterrupted, to ship at least 138,000 tons/year until project completion.

1.2.3.2 FDECR – Railcar Shipping

1. The shipping services provided by DOE, through its tender with UPRR, for the transportation of WPRAP wastes from the FEMP to Envirocare. These services must be available, uninterrupted, to ship at least 138,000 tons/year until project completion.

1.2.3.3 FDECF – Railcar Disposition

1. The 170 DOE-owned gondola cars. These railcars must be continuously available through the life of the project.
2. The services provided through the DOE Ohio Field Office, for the Final Cleaning of Railcars for Unlimited Release at Envirocare, through its contract with Envirocare (#DE-AM24-98OH20053). These services must be available, uninterrupted, to receive at least 138,000 tons/year through the life of the project.

1.3 DRIVERS

1.3.1 FDEC5 – Shipping and Disposal Oversight Staff

1. The WPRAP Transportation and Disposal Plan – which defines how WPRAP shipping and disposal operations will be performed.

2. The Envirocare WAC, as defined in the IT Subcontract and the Envirocare Radioactive Waste Profile Record, and the DOE Ohio Field Office Contract (#DE-AM24-98OH20053) – which define the characteristics that must be met by the waste product, after it has been processed and loaded into railcars by IT, for disposal at Envirocare.
3. 49 CFR 172.200-202 and 173.203(d) and (g) – which identify the information to be included on the waste shipping documentation.
4. American Association of Railroads (AAR), Federal Railroad Administration, and other federal regulations in effect at the time of this baseline development – which define how railcars are to be maintained.
5. 49 CFR 173.403 – which defines the waste characteristics that must be met by the waste product, after it has been processed, for loadout into railcars by IT, such that the material can be shipped as DOT LSA-I waste.
6. DOE Orders 460.1A, Packaging and Transportation Safety, 460.2, Departmental Materials Transportation and Packaging Management, which cover the DOT requirements that regulate the operations and activities associated with the packaging and transportation of hazardous materials from DOE facilities in interstate and intrastate commerce.
7. Availability of loaded railcars – IT will load railcars at a rate of eight per day, four days a week.
8. The Collective Bargaining Agreement (CBA) between Fluor Fernald and the FAT&LC – which defines requirements associated with the performance of FAT&LC work at the FEMP.
9. The tender between DOE and UPRR – which defines shipping requirements, notification times, etc.

1.3.2 FDECR – Railcar Shipping

1. 49 CFR 173.403 – which defines the waste characteristics that must be met by the waste product, after it has been processed, for loadout into railcars by IT, such that the material can be shipped as DOT LSA-I waste.
2. The tender between DOE and UPRR – which defines shipping requirements, notification times, etc.
3. American Association of Railroads (AAR), Federal Railroad Administration, and other federal regulations in effect at the time of this baseline development – which define how railcars are to be maintained.

1.3.3 FDECF – Railcar Disposition

1. The DOE Ohio Field Office Contract (#DE-AM24-98OH20053) – which defines the mechanism under which Envirocare will perform final cleaning of railcars for unlimited release.

1.4 PROJECT PHYSICAL DESCRIPTION

WPRAP is responsible for implementing the selected remedy of the OU1 ROD, including the off-site disposal of the pit wastes. In support of this, WPRAP has developed an infrastructure of rail facilities to the north of the FEMP Production Area and the waste pits. These rail facilities consist of approximately 17,000 feet of rail (and switches), 170 gondola railcars, three locomotives, and a trackmobile.

1.4.1 FDEC5 – Shipping and Disposal Oversight Staff

To manage the on-site rail operations and facilities, and the rail shipment and disposal process for the waste pit materials, Fluor Fernald has assigned a staff of salaried and wage personnel. Most of these personnel perform their responsibilities within the railyard.

1.4.2 FDECR – Railcar Shipping

Once railcars have been loaded, manifested, and assembled into a unit train, CSXT and UPRR have the responsibility for transporting them from the FEMP to Envirocare.

1.4.3 FDECF – Railcar Disposition

Once railcars are no longer needed to ship WPRAP materials, they will be cleaned for unlimited release at the Envirocare facility, and returned to the FEMP. Following completion of shipping and disposal activities, Fluor Fernald personnel will use facilities/equipment at the Locomotive Maintenance Facility, to decontaminate the locomotives, for transfer to another DOE facility, and the trackmobile to support remaining railcar movements at the FEMP.

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

Shipping and disposal operations are performed by Fluor Fernald, using on-site rail facilities. WPRAP shipping and disposal operations is composed of four distinct elements. One element is the cost of disposal at Envirocare, which is managed by DOE and is therefore not detailed within this plan. The other three elements are WPRAP Shipping and Disposal Oversight, Railcar Shipping, and Railcar Disposition. The following sections provide a detailed scope and quantification of these three elements.

1.5.1 FDEC5 – Shipping and Disposal Oversight Staff

WPRAP shipping and disposal oversight is comprised of the Fluor Fernald resources, both in terms of personnel and materials, which have been put in place to manage the on-site rail operations, as well as off-site rail and disposal operations. Each of these components is discussed in detail in the following sections.

1) Task #1 – On-Site Rail Operations

1.1)1 Plan/Scope – On-Site Rail Operations

On-site rail operations is comprised of railcar movements, and inspections and maintenance of the railcars, the locomotives, and the tracks. Railcar movements includes a description of the daily movements of the railcars, unit train assembly and departure, unit train return and receipt, integration with on-site groups, and track access controls. Inspections and maintenance includes the responsibilities of the train and maintenance crews, on-site equipment maintenance, and the inspection and maintenance of the locomotives, railcars, tracks and switches.

R1-
F05-
001

Overall on-site rail operations is the responsibility of the ~~On-Site Rail Operations Manager~~ FEMP Train Crew Supervisor (a.k.a., Project Support Manager). Specifically, the ~~On-Site Rail Operations Manager~~ FEMP Train Crew Supervisor is responsible for coordinating on-site rail operations to match the IT production schedule and the railroad and departure schedule. As such, the ~~On-Site Rail Operations Manager~~ FEMP Train Crew Supervisor oversees the FEMP Train Crew activities, as discussed below. In addition, the ~~On-Site Rail Operations Manager~~ FEMP Train Crew Supervisor is responsible for securing any resources needed to maintain the operability of the on-site rail facilities and equipment. This includes ensuring that routine preventive and corrective maintenance is performed on the rails and equipment in a timely manner, as discussed below. This also includes the procurement and coordination of any technical service subcontracts to support rail operations.

On the day of unit train assembly, the ~~On-Site Rail Operations Manager~~ FEMP Train Crew Supervisor is responsible for coordinating with other on-site groups such as Radiological Control, Health and Safety, Quality Control, and Security to ensure the train is assembled in time for the scheduled CSXT departure.

FEMP Train Crew

Railcar movement activities are performed by a dedicated Train Crew, under the direction of the FEMP Train Crew Supervisor (~~a.k.a., Project Support Manager~~). This Train Crew also has responsibilities for the inspection of the rail facilities, although specific maintenance of these facilities is generally performed by FAT&LC craft personnel, ~~under the direction of the On-Site Rail Operations Manager~~. In addition, the following sections also identify the needed support for these activities, through Radiological Control Technicians (RCTs), Health and Safety personnel, and QC inspectors.

Using the three locomotives obtained by WPRAP through the Government Excess Surplus Program, the WPRAP Train Crew performs all railcar movements on site in support of WPRAP. This Crew is comprised of six FAT&LC Switchmen/Locomotive Operators permanently assigned to the project to support on-site rail activities within the north railyard. Operation of the locomotives requires three of the Switchmen/Locomotive Operators. In addition to operating the locomotive, these individuals are also responsible for throwing the switches which properly guide the locomotives/cars to the correct tracks, and for spotting the movements of these locomotives/cars. The remaining Switchmen/Locomotive Operators are responsible for performing inspections of the locomotives, the railcars, the trackage, and the switches. These additional Switchmen/Locomotive Operators are also needed to ensure availability of trained personnel (both in the railyard and to operate the trackmobile in the IT facility), during absences (e.g., sick leave, training, vacations).

On a daily basis, the Train Crew moves the fleet of 170 gondola railcars (purchased by the DOE), so as to support loadout activities by IT, and, as appropriate, the assembly of unit trains for transportation off site and the receipt of empty railcars from the unit trains returning from Envirocare. At the start of the shift, the FEMP Train Crew Supervisor briefs the train crew on the rail activities to be performed that day, prior to initiating operations. Such daily operations typically involves the Train Crew transporting two strings of four empty railcars to IT every Monday through Thursday, to support IT operations, and pick up two strings of four full railcars from IT each of those days. The full railcars are transported to the WPRAP north railyard where they are stored, pending the need to develop a unit train for shipment off site.

From the 3rd quarter of FY03, through the 3rd quarter of FY04, the Train Crew will also provide the Silo 3 project with the railcars needed to support their loadout operation. The Silo 3 project plans to load railcars at a rate to support the shipment of five railcars with every unit train shipped during the above period of time. This process will involve the delivery of empty railcars to a loadout location along Track 12 (south of the IT facility), and the pickup of full railcars from that same location, with these full cars being transported to the WPRAP north railyard.

To minimize shipment delays, the Train Crew also performs a preliminary inspection of every railcar before loading and while assembling the unit train. The inspection is conducted to verify physical integrity, and to ensure that the railcar is properly placarded so that no conditions exist which may contribute to or cause a delay while en route to the destination (e.g., discovery of a bad car).

In addition to the daily activities identified above, the Train Crew is responsible for on-site railcar movements needed to assemble the railcars into unit trains. Specifically, for every unit train (expected to be once every 2½ weeks) the Train Crew will pick up loaded railcars from the north railyard and move them to the FEMP spur where they will await CSXT arrival. The Train Crew will also be responsible for receiving any railcars rejected by the CSXT (i.e., "bad order" cars) during their pre-departure inspections.

Upon their return to the FEMP, the unit train is inspected for physical damage and to verify that only DOE FEMP railcars are in the train. Major damage is investigated to determine the circumstances associated with the damage, to determine who is responsible for repairs. Once the empty railcars are accepted, the Train Crew uses the locomotives to move them onto the appropriate tracks in the north railyard. Again, it is planned that 21 unit trains would be received at the FEMP during a normal year.

As indicated above, the Train Crew also performs daily pre-operational inspections and subsequent daily servicing activities for locomotive startup, inspection, and operation. The Train Crew will also inspect railcars for worn or damaged parts. Finally, the Train Crew will perform regularly scheduled inspections of the on-site track and switches as required. Rail operations personnel have been trained to recognize unsafe track conditions and to report all defects to the Train Crew Supervisor. Unsafe track conditions may include loose ties, damaged rail, or insufficient ballast.

Maintenance

A complete and adequate maintenance program will be implemented to keep the on-site equipment in good mechanical condition. It will include all the periodic and progressive maintenance necessary to obtain maximum trouble-free service. This will enable maintenance operations to be performed when they are needed and in the proper sequence. Current FEMP maintenance procedures will be followed, when applicable, in the performance of these activities.

Maintenance of the locomotives, railcars, trackage, and switches, is performed by FAT&LC crafts. Some of this maintenance is scheduled maintenance (e.g., preventive maintenance), while some is corrective maintenance. This maintenance is either performed in the railyard or in the Locomotive Maintenance Building, generally using tools provided by WPRAP Rail Operations. Any PPE, tools, and other materials required to perform this maintenance (e.g., spare parts) are provided through this Shipping and Disposal Oversight element of the project.

The maintenance requirements anticipated for the FEMP railcars are primarily brake shoes and air hoses, which are performed by Industrial Mechanics. FAT&LC maintenance personnel will be trained to perform maintenance, in compliance with manufacturer-recommended service intervals. If repairs on a railcar are needed, such as ladder replacement/repair, these repairs are performed by Millwrights.

Typically, daily railcar movements are performed using two locomotives operated in multiple unit configuration to reduce the strain on the traction motors and generators. The third locomotive is rotated into the two-unit configuration to allow time for routine locomotive maintenance without impacting daily railcar movements. Routine service of the locomotives is based upon actual operating hours. Routine service activities include inspection of traction motors, coupler alignment, wheel condition, air brakes, and mechanical components. Maintenance will be performed in accordance with the manufacturer's Locomotive Operations and Maintenance Manual, which contains a

troubleshooting chart and other pertinent information to aid in the locomotive maintenance activities. Depending on the type of maintenance being performed, it is the responsibility of either an Electrician, a Garage Mechanic, or an Instrument Mechanic.

FAT&LC maintenance personnel will perform routine maintenance activities associated with on-site tracks and switches. This has generally been limited to the maintenance of the switches (i.e., greasing of the switches), which is performed by Oilers. If any repair of tracks is needed, it will probably be performed by Millwrights.

On-Site Rail Operations Support

FEMP RCTs assigned to the project, perform a number of tasks required to support movement of the railcars on site, assembly and receipt of unit trains, support of maintenance activities, and proper radiological control (i.e., routine surface contamination, air, breathing zone, and radiation monitoring) in the railyard.

In support of the railcar receipt from IT, RCTs survey the railcars to verify that they are uncontaminated. Uncontaminated railcars are moved to storage tracks in the north railyard. If a railcar is found to be contaminated, it is segregated and moved directly to the railcar loadout area for decontamination. Any contamination found will be documented and notifications made accordingly.

RCTs support other railcar movement operations, through the performance of radiological surveys of the railcars and locomotives to support the storage of the railcars in the north railyard, in accordance with the approved radiological control program. The RCTs also survey the unit train upon its return from Envirocare. In addition, the RCTs provide the necessary support for the performance of maintenance activities. Finally, as required by the tender, a radiological survey is performed of the enclave area (by RCTs) prior to the placement of the unit train in the enclave (for transport to Envirocare).

Health and Safety personnel assigned to WPRAP also support on-site rail activities, as necessary. Specifically, Health and Safety personnel support the on-site rail operations through the development and review of safety issues associated with routine and non-routine work activities. For example, Health and Safety personnel perform periodic field inspections, review permits, and coordinate needed field support. Health and Safety personnel are also responsible for coordinating emergency response activities associated with rail transportation, including maintenance of emergency response plans, maintaining contacts with state and local Emergency Response Organizations, and coordinating emergency response drills.

QC personnel are also assigned to WPRAP to support on-site rail activities, as necessary. QC personnel are generally involved in surveillance activities of the unit train prior to its shipment off-site, and in inspections of railcars, upon receipt of the unit train. In addition, QC personnel are responsible for the performance of vendor/supplier audits, performing independent surveillances, etc.

Material, Subcontracts and ODCs

For non-routine maintenance (i.e., maintenance which has not been anticipated and/or for which the FAT&LC craft personnel have not been trained), a subcontractor with the required expertise, will probably be used.

Periodically (i.e., every couple of years), subcontractor personnel will perform an independent on-site track inspection to verify that the tracks are operationally safe. They will document this inspection and provide a written report as to the results of their inspection and any recommendations and corrective actions.

Shipping and Disposal Oversight is also responsible for providing the resources necessary to perform the semiannual calibration of the rail scale located within the IT facility. This activity will be performed with support from Fluor Fernald Operations Oversight personnel, utilizing subcontractors. The subcontractor will be responsible for providing the necessary calibration equipment. Shipping and Disposal Oversight will be responsible for providing replacement/spare parts for the rail scale, as necessary.

As required (i.e., either annually or semiannually), personnel assigned to support on-site rail operations will need to attend refresher/requalification training specific to operating equipment and/or performing other activities in and around a rail facility. This training will be provided to WPRAP personnel through a qualified subcontractor.

In addition to the materials identified above, in support of maintenance, Shipping and Disposal Oversight includes costs for other materials. Specifically, Shipping and Disposal Oversight is responsible for the purchasing of diesel fuel and sand (for locomotive traction) required for the operation of the locomotives. Other materials to be provided by Shipping and Disposal Oversight includes anti-C's, and placards for the railcars.

1.1)2 Quantification – On-Site Rail Operations

As indicated in Section 1.2.1, the total tonnage to be shipped through the remainder of the project is 540,579 tons. Factoring in the need to add the Silo 3 shipments to unit trains in FY03/FY04, the following table shows the WPRAP material shipments expected over the remainder of the project:

Table 1

FY01	95,919 ¹
FY02	136,000
FY03	131,000 ²
FY04	131,000 ²
FY05	46,660

¹ This tonnage reflects the tonnage processed in FY01, after December 1, 2001.

² This tonnage does not include the material to be shipped from Silo 3.

From a shipping standpoint, these quantities equate to the shipment of 21 unit trains per year (for FY02-FY04), each consisting of 60 railcars of waste.

Most of the resources expended in support of this waste shipment vary little within the range of tonnages reflected in the above table. Specifically, the on-site rail operations personnel required to support shipping remains the same for a range of quantities to be shipped through WPRAP; in particular, for those planned ranges identified in this plan.

On-Site Rail Operations relates to services performed by various project personnel, with some material, subcontract costs, and ODCs needed to support these operations. Because the quantification of material, subcontracts, and ODCs is tracked at the charge number level, these items have been quantified only once, and are included in Section 2.2 – Quantification – Off-Site and Disposal Operations. The personnel needs, as described in Section 1.1 – Plan/Scope – On-Site Rail Operations are quantified in Table 2. The personnel identified in this table work a single shift, and will be required at these same levels through January 2005. Beginning in February 2005, these personnel resource needs will decrease, as shipping ends, with a portion of the workforce reassigned to the Railcar Dispositioning.

Table 2

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Operations Manager	1	Remains constant through 1/05, then drops to 0
Project Support Manager	1	Remains constant through 12/04, then drops to 0.5 for a quarter, as the resource shifts to railcar disposition
Locomotive Switchman	6	Remains constant through 1/05, then drops to 0, as the resource shifts to railcar disposition
Rad Tech	2	Remains constant through 1/05, then drops to 0, as the resource shifts to railcar disposition
QA/QC Technician	0.2	Remains constant through 1/05, then drops to 0, as the resource shifts to railcar disposition
Safety Engineer	0.2	Remains constant through 1/05, then drops to 0, as the resource shifts to railcar disposition

R1-
F05-
001

Table 2

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Electrician	0.1	Remains constant through 12/04, then drops to 0, as the resource shifts to railcar disposition
Painter	0.3	Remains constant through 12/04, then drops to 0
Industrial Mechanic	0.4	Remains constant through 1/05, then drops to 0, as the resource shifts to railcar disposition
Instrument Mechanic	0.1	Remains constant through 12/04, then drops to 0, as the resource shifts to railcar disposition
Millwright	0.1	Remains constant through 1/05, then drops to 0, as the resource shifts to railcar disposition
Oiler	0.1	Remains constant through 1/05, then drops to 0

Discussions in this section, relative to personnel resources, do not include the quantification and rationale for FY01 Fluor Fernald personnel. The rationale for FY01 manpower is based on the charge in and charge out practices that were in effect as of the start of the Fluor Fernald Contract in December 2000. The rationale defined in this document is effective as of October 1, 2001 (i.e., beginning in FY02) and is based on Revision 0 of the "Functional Responsibilities Matrix" issued in January of 2001.

2) Task #2 – Off-Site Rail and Disposal Operations

2.1)1 Plan/Scope – Off-Site Rail and Disposal Operations

Off-site rail operations consists of those activities which relate to the management of WPRAP shipments between the FEMP and Envirocare. Off-site rail operations includes issues associated with the responsibilities of the rail carrier, items which affect the means of shipment of the WPRAP wastes, and specific requirements relative to those shipments. Disposal operations consist of those activities which support the disposal of the waste at Envirocare. Off-site rail and disposal operations are performed by a technical/support representative and the Rail Operations Manager, with support from WAO, Waste Characterization, and others.

Off-Site Rail Operations

In general, off-site rail operations consists of the personnel resources needed to manage Fluor Fernald's responsibilities with respect to the movement of the unit trains between the FEMP and Envirocare (i.e., when the trains are in control of CSXT and UPRR). The activities which fall under this element include scheduling of unit trains and tracing of those trains, development of shipping paperwork, and otherwise working with the railroads to address in-transit issues such as the management of bad order cars. In general, these activities are managed by the WPRAP Off-Site Rail Operations personnel.

WPRAP Off-Site Rail Operations provides the necessary interface between the FEMP and the railroads relative to the scheduling of the FEMP unit trains. This process includes the scheduling of unit train pickup by CSXT, consistent with the notification requirements of

the tender. Until a shipment is received and disposed of at Envirocare, DOE FEMP retains ownership of the waste and takes responsibility for providing technical support and oversight in the event of a transportation incident. WPRAP Rail Operations personnel will trace every unit train from the time it departs the FEMP until it returns to the FEMP, using the railroad computer programs on the internet.

WPRAP Off-Site Rail Operations personnel are also responsible for compiling all of the information which comprises the rail shipment document package. Off-Site Rail Operations personnel assign a unit train number for each shipment, that will be used as a reference number for shipment documentation packages. The information provided on the DOE/Nuclear Regulatory Commission Form 741, Nuclear Transaction Report, is also entered in the DOE System Mobility and Accountability Collection (SMAC) database. The SMAC system is a centralized collection point for transportation information for nuclear materials across the DOE complex. The following information must be provided to WPRAP for each railcar to prepare the rail shipment documentation package:

- Radiological assay for the waste
- The weight, volume, and bin data
- Radiological survey report for the exterior contamination and dose rate
- Bill of lading
- NRC Form 540/541, Low Level Radioactive Waste Manifest
- Nuclear Materials Shipping Order
- Railcar inspection form

Initial rail-related documentation begins with a bill of lading for each railcar in a train. The bill of lading provides general information needed by the railroads including: proper shipping name, type of shipment, billing code, train weight, exclusive use instructions, emergency response information, and routing information. The bill of lading also provides the consist, which is the listing of railcar reporting marks in the order in which they are placed in a train.

On a semi-annual basis, Off-Site Rail Operations personnel are responsible for maintaining registration for the FEMP's railcar reporting marks OHFX###, with the AAR Universal Machine Language Equipment Register (UMLER). The UMLER file is the official source of acceptable railcars for interchange service and provides the specific information the railroads need to accept the FEMP railcars. The reporting marks are also used to trace railcars and track mileage, mechanical status, and billing information for each railcar in a shipment.

WPRAP Off-Site Rail Operations personnel are also responsible for tracing actions taken with respect to a bad order car (i.e., a car deemed not acceptable for shipment) identified en route. If a bad order car is identified en route, it will be repaired by the railroad in possession of the car at the time a defect is discovered. If the car can be moved, repairs will be performed at a repair facility approved by the railroad and the AAR. If the railcar cannot be moved safely, a mobile repair crew will be dispatched by the railroad to make

repairs. The railroad will notify the FEMP of any bad order cars repaired en route. If repairs are minor, the entire train will be held until repairs are complete. If major repairs are needed, the railcar may be removed and the balance of the train will continue on to its destination.

If a railcar is removed from a train, it will be placed into manifested service to complete its trip once repairs are complete. If the repairs involve the body of the gondola car, the railroad is instructed to contact the FEMP before making these repairs. If the repairs present a potential for exposure to the contents of the gondola, the FEMP will provide on-scene technical support (radiological control technician) to oversee the repairs and protect railroad employee health and safety.

A 24-hour advance notice of the train arrival at the FEMP will be obtained on the basis of railcar tracing information and/or receipt of notice from CSXT. WPRAP Rail Operations will then notify the appropriate personnel as to the unit train's estimated time of arrival.

Each rail shipment documentation package will remain on file at the FEMP for the duration of the project.

Disposal Operations

The FEMP has an established waste stream profile (8001-01) for WPRAP waste disposal at Envirocare. This profile essentially establishes working tolerances within which waste pit constituent concentrations would be expected. If, through on-going sampling of the pit material, it is found that these tolerances have been exceeded, the profile will need to be revised. Profile modifications are required when the chemical or radiological content of a bin sample exceeds the established profile ranges. The primary reason for exceeding the established profile ranges is when the source material changes such as when a new pit is excavated.

Therefore, as data is generated through the sampling of the waste material in the loadout bins, it will be evaluated by Off-Site Rail Operations personnel to determine if constituent concentration levels are still within the tolerances of the approved profile. If data shows that the waste profile will be exceeded, Off-Site Rail Operations personnel will work with WAO to make the proper notifications to Envirocare, and prepare the profile modification. It is assumed that such modifications will be needed once a year for the remainder of the excavation process.

Each railcar loaded with waste is accepted individually from IT. To be accepted, the railcar must be loaded and secured such that it meets DOT and railroad requirements. IT must provide analytical data documenting that the waste meets the Envirocare WAC and profile before it is accepted for shipment. Once 60 railcars of acceptable waste are received from IT, along with the required analytical data, the 540 and 541 manifests will be generated along with the railroad bills of lading.

WPRAP Off-Site Rail Operations personnel are responsible for compiling all of the required shipping and disposal documentation, prior to the shipment being released. WPRAP Rail Operations makes two copies of the manifests for the cars in the train. One copy must accompany the shipment and is presented to the CSXT Train Crew at departure. The second copy is mailed to Envirocare so that it arrives before the shipment. WPRAP Rail Operations completes an EC-98096, 5-Work Day Advanced Shipment Notification and faxes this form to Envirocare. Rail Operations prepares one railroad bill of lading for each railcar in a train and sends it to CSXT one day before the scheduled shipment.

Shipping and disposal documentation development is an effort which involves individuals from various organizations at the FEMP. In addition to the WPRAP Off-Site Rail Operations personnel, individuals from WAO, Waste Characterization, WGS Shipping Services, and Information Management all support this documentation effort.

2.1)2 Quantification – Off-Site Rail and Disposal Operations

As was the case with On-Site Rail Operations, most of the resources expended for Off-Site Rail and Disposal Operations, vary little within the range of tonnages reflected in Table 1. Specifically, the off-site rail and disposal operations personnel required to support shipping and disposal remains the same for a range of quantities to be shipped through WPRAP; in particular, for those planned ranges identified in this plan.

The personnel needs, as described in Section 2.1 – Plan/Scope – Off-Site Rail and Disposal Operations are quantified in Table 3. The personnel identified in this table work a single shift, and will be required at these same levels through February 2005.

Table 3

RESOURCE CLASSIFICATION	QUANTITY	NEEDS ASSESSMENT
Operations Manager	1	Remains constant through 2/05, then drops to 0
Technical/Program Support Rep.	1	Remains constant through 2/05, then drops to 0

Discussions in this section, relative to personnel resources, do not include the quantification and rationale for FY01 Fluor Fernald personnel. The rationale for FY01 manpower is based on the charge in and charge out practices that were in effect as of the start of the Fluor Fernald Contract in December 2000. The rationale defined in this document is effective as of October 1, 2001 (i.e., beginning in FY02) and is based on Revision 0 of the "Functional Responsibilities Matrix" issued in January of 2001.

In addition to the personnel needs identified above, and in Table 2 (for On-Site Rail Operations), there are various materials, subcontract costs, and ODCs needed to support both of these operations, with these resources needed through February 2005. Table 4 provides the quantification of what these other resource needs will be.

Table 4

CLASSIFICATION	DOLLARS	NOTES
Materials	\$100,000 Each Year	Constant through FY04, FY05 reduced to \$75,000 , In FY01 dollars, unescalated
Subcontractors	\$50,000 Each Year	Constant through FY04, FY05 reduced to \$35,000 , In FY01 dollars, unescalated
ODCS, 3 trips each year	\$8,000 Each Year	Constant through FY05, In FY01 dollars, unescalated, Trips to E-Care

Materials include 4,000 gallons of diesel fuel each year.

As discussed previously, the subcontracts include the periodic performance of independent on-site track inspection to verify that the tracks are operationally safe, the semiannual calibration of the rail scale located within the IT facility, and non-routine maintenance (i.e., maintenance which has not been anticipated and/or for which the FAT&LC craft personnel have not been trained).

1.5.2 FDECR – Railcar Shipping

1)1 Plan/Scope – Railcar Shipping

The off-site shipment of WPRAP wastes is managed through a tender between the DOE and UPRR. Charge number FDECR consists solely of the activities to be performed by UPRR and CSXT in support of waste shipping (i.e., it does not contain any Fluor Fernald resources). A tender is designed to allow the common carrier(s) providing transportation under the Surface Transportation Board to grant the U.S. Government a rate less than the full applicable commercial rate. The tender includes terms and conditions agreeable to both parties relative to the mode of transportation, the commodity to be transported, volume, frequency of shipments, origin, destination, special precautions, types of equipment being utilized, and cost of transport.

A tender applies to shipments from a specific origin to a specific destination, which in the case of WPRAP relates to shipments from the FEMP to Envirocare. Any alternative destination is not covered under the tender, thus the shipment would potentially be moved at a rate different (possibly higher) than offered in the tender. A tender remains in force from the effective date to the expiration date, and may be revised or rescinded with concurrence by all parties.

Under the tender, Fluor Fernald has agreed that the material is to be shipped by gondola cars, each of which is lined with a plastic liner that is sift-proof and water-resistant, and lidded with a secured removable cover. The tender provides that the material being shipped meets LSA-I criteria, and provides a gross limit of 286,000 tons per car. Fluor Fernald is responsible for the proper placarding of the railcars.

The tender provides for the shipment of WPRAP wastes through unit trains, which must consist of 60 or more railcars. One buffer car, loaded with inert, nonradioactive material,

is to be provided by Fluor Fernald, for every unit train, and is to be placed at the front end of the unit train.

Fluor Fernald is to give CSXT at least 14 working days notice of its intent to ship a unit train. After the unit train has been constructed by Fluor Fernald, it is to be placed in the enclave, where it will be picked up by CSXT. The tender provides that the enclave is to be determined "radiologically free of contamination" by Fluor Fernald within 24 hours of a scheduled unit train departure. Under the tender, CSXT (as a subcontractor to UPRR under the tender) will provide for transportation to East St. Louis, and Union Pacific Railroad will provide for transportation from East St. Louis to Envirocare. The railroad will provide for the repairs of bad-ordered railcars found en-route, upon approval by Fluor Fernald, with the costs of the repairs being paid by Fluor Fernald.

Payments for the shipment of wastes from WPRAP will be to UPRR, and will be based on the number of railcars shipped. The transportation rates are subject to adjustment annually, each January 1, based upon a rate approved by the Surface Transportation Board. The tender provides for a rebate to Fluor Fernald, to account for off-site rail improvements previously funded by the FEMP. This per railcar rebate was calculated using the projected number of cars (i.e., 5,500) at the time the tender was entered into. Therefore, there will be no rebate for any cars shipped after the first 5,500 railcars.

1)2 Quantification – Railcar Shipping

Railcar shipping consists of the costs for the transport of WPRAP unit trains from the FEMP to Envirocare, utilizing CSXT and UPRR, under the tender between DOE and UPRR. This tender provides for a per-car rate for shipment of WPRAP wastes, which is subject to adjustment every January 1. For estimating purposes, a rate of 3.64% (reflective of past experience) is to be used. For FY01, the per-car rate is \$9,042. The rate, however, is subject to the application of a rebate, which has been calculated to be \$468.49, resulting in an actual per-car rate of \$8573.51 for FY01. The rebate applies only to the first 5,500 railcars of material shipped from the FEMP. At the rate of 21 unit trains per year, as discussed previously, approximately 1,260 railcars would be shipped each year, in years FY02 – FY05. Table 5 provides a summary of the planned railcar shipping for the remainder of the project and the estimated unit train costs associated with the railcar shipments.

Table 5

R1-E-713

R1-F5-004	CLASSIFICATION	FISCAL YEAR			
		FY02	FY03	FY04	FY05
	Est. Unit Train Costs	\$520,000	\$525,000	\$550,000 ¹	\$560,000
R1-E-713	Tender for shipment of railcars	21 Unit Trains (or 1260 railcars)	21 Unit Trains (or 1260 railcars) ²	21 Unit Trains (or 1260 railcars) ²	8 Unit Trains (or 432 railcars)

1. Rebate is anticipated to be complete at end of FY03.
 2. In each year 50 of these railcars will be filled with Silo's waste.

1.5.3 FDECF – Railcar Disposition

1)1 Plan/Scope – Railcar Disposition

Once all of the pit wastes, and contaminated subsoils have been processed through the IT facility, and shipped off-site for disposal at Envirocare, there will no longer be a need for any of the gondola railcars, the locomotives, or certain of the facilities (e.g., the Locomotive Maintenance Facility) which support rail operations. Consistent with the cleanup goals of the FEMP, it will then be necessary to disposition these various items. Accordingly, dispositioning of the railcars and the locomotives, is the responsibility of WPRAP, through the WPRAP Shipping and Disposal organization.

As discussed in Section 1.2.3, D&D of the various facilities will be the responsibility of either the D&D Project or the Soils and Disposal Facility Project. Consistent with the remediation plans for these (and other) FEMP projects, certain of the rail facilities will remain to support rail shipments off-site (i.e., via intermodal railcars). To support this effort, WPRAP will also decontaminate the trackmobile currently being used by IT, for use in the movement of railcars used by these other projects, as well as to support the assembly of the gondola cars and locomotives for their eventual transfer off-site to another DOE facility.

Since DOE is the owner of the railcars and the locomotives, it is expected that they can be used by another DOE facility when this project is complete. The fact that the FEMP will have used the railcars for less than ten years, and that these are standard-type railcars which can be readily adapted for use elsewhere, would lead credence to the ability to disposition them at another site. Similarly, the locomotives should still have value for use at another DOE facility.

Railcar Decontamination

Although the FEMP should be able to disposition the railcars and the locomotives to another DOE facility, it is assumed that there will need to be some level of final cleaning prior to be transferred to another facility. Under DOE's disposal contract with Envirocare, DOE can exercise an option for the final cleaning of railcars for unlimited release. WPRAP plans on this option being exercised for the FEMP railcars, beginning with railcars shipped under unit trains transporting waste in January 2005 (i.e., for the last three unit trains).

At that time, this final cleaning will be performed by Envirocare under line item 0018 of the DOE contract. Line item 0018 provides for this final cleaning of the railcars at a cost of \$600 per railcar. Under the DOE contract, Envirocare will perform this final cleaning for a maximum of 75 railcars in any 30-day period. Under the contract, Envirocare will perform this cleaning for unlimited release to the standards specified in Envirocare's Radioactive Material License, and 49 CFR. The specific railcars to be cleaned are to be identified by DOE through a letter to Envirocare.

In that the railcar covers are a part of the shipment package, it is assumed that this final cleaning at Envirocare will also include cleaning for unlimited release of the cover. Although the railcar covers are owned by IT, it is assumed that IT will transfer ownership of them to DOE upon completion of all shipment activities, and that they will be part of the package sent to another DOE facility. It is assumed that this transfer will take place at no additional cost to the project (i.e., DOE will get ownership of the covers, and IT will not have to pay a backcharge for disposal of the covers, as was planned).

On-Site Rail Operations personnel will support this effort, by assisting DOE in the identification of the specific railcars to be cleaned for each shipment. These personnel will also track/trace the progress of this cleaning effort at Envirocare, and the return of these railcars to the FEMP, to await final disposition.

In addition, various On-Site Rail Operations personnel will be required to support receipt and on-site movement of the railcars upon their return from Envirocare. Specifically, a Train Crew and a supervisor will continue to be needed until all railcars are returned from Envirocare in April 2005. Additionally, maintenance personnel, such as those identified in Section 1.5.1 will continue to be needed, as long as the rail facilities are necessary. Other personnel needed to support this receipt and on-site rail movement process, as they were similarly doing in support of On-Site Rail Operations, are radiological control personnel, a QA/QC technician, and a Safety Engineer.

Locomotive/Trackmobile Decontamination

As with the railcars, it is assumed that there will need to be some level of decontamination performed on the locomotives, prior to being able to transfer them to another DOE facility. Unlike the railcars, however, the plan for decontamination of the locomotives, is for Fluor Fernald personnel to perform this decontamination in the Locomotive Maintenance Facility, using the maintenance pit (retrofitted, as necessary) for the collection of the decontamination water. During this effort, it will be necessary to remove water from the maintenance pit at a frequency of about every other day. It is expected that this locomotive decontamination effort will start once all railcars have been returned from Envirocare (i.e., in April 2005), and will be completed in May 2005.

As stated above, the trackmobile, which is owned by DOE and currently being used by IT, will also be decontaminated by Fluor Fernald personnel, to support continued use on site by other FEMP projects. As with the locomotives, the trackmobile will be decontaminated within the Locomotive Maintenance Facility. Decontamination of the trackmobile will be performed in the April/May 2005 time period, during which the locomotives are being decontaminated.

The Train Crew will remain through May 2005 to support this effort. The actual decontamination work will be accomplished using hazwats and millwrights. In addition, support from an electrician, industrial mechanic, and instrument mechanic will be necessary should decontamination interior portions of the locomotives/trackmobile be needed. An RCT will also be needed for surveying of the locomotives/trackmobile to

ascertain completion of decontamination efforts. In addition, support will also be provided by Health and Safety and QC, as necessary.

1)2 Quantification – Railcar Disposition

The direct cost for decontamination of the railcars (to be paid through the DOE contract with Envirocare) is \$600 per railcar, with the costs covered in DOE’s account. For the existing fleet of 170 railcars, this results in a total cost of \$102,000 for this cleaning. This cost will be incurred between January and April of 2005, as shown in Table 6.

Table 6

CLASSIFICATION	1/05	2/05	3/05	4/05
Final Cleaning of railcars by Envirocare	10 railcars	75 railcars	75 railcars	10 railcars

Based on this information previously provided, Table 7 provides a quantification of the labor needed to support this railcar/locomotive/trackmobile dispositioning effort from January 2005 through May 2005.

Table 7

RESOURCE CLASSIFICATION	QUANTITY				
	1/05	2/05	3/05	4/05	5/05
Project Support Manager	1	1	1	1	1
Locomotive Switchman	3	3	3	3	3
Rad Tech	1	1	1	1	1
QA/QC Technician	0.2	0.2	0.2	0.2	0.2
Safety Engineer	0.2	0.2	0.2	0.2	0.2
Hazwat	0	0	2	2	2
Millwright	0	0	2	2	2
Electrician	0.1	0.1	0.1	0.1	0.1
Industrial Mechanic	0.1	0.1	0.1	0.1	0.1
Instrument Mechanic	0.1	0.1	0.1	0.1	0.1

To support the decontamination activities in the Locomotive Maintenance Facility, it is assumed that a water collection pan will be installed in the maintenance pit, at a material cost of about \$25,000. The labor for this installation is to be performed by the Hazwats and Millwrights included in Table 7.

SECTION 3

2.0 SCHEDULE

SECTION 3

3.0 MANPOWER PLANS

SECTION 3

4.0 ESTIMATE

FDEC5

SHIP/DISPOSAL OVERSIGHT STAFF

Fluor Fernald, Inc.

PBS: OHFN05
WBS: 1.1.F.C
CTRL ACCT: FDEC
CHARGE NO: FDEC5
COMMENT NO: F-05-001

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karf Spring
FISCAL YEAR: 01-05

Resource: Res Dept:	CLERKS 947	Overtime:	LABOR																													
			Class:		EOC: SAL		EOC: SAL		EOC: SAL		EOC: SAL		EOC: SAL		EOC: SAL																	
Yr Hours:	290.4	0.0	Oct 00- Sep 01	290.4	0.0	Oct 01- Sep 02	290.4	0.0	Oct 02- Sep 03	290.4	0.0	Oct 03- Sep 04	290.4	0.0	Oct 04- Sep 05	290.4	0.0	Oct 05- Sep 06	290.4	0.0	Oct 06- Sep 07	290.4	0.0	Oct 07- Sep 08	290.4	0.0	Oct 08- Sep 09	290.4	0.0	Oct 09- Sep 10	290.4	0.0
Cum Hours:	290.4	0.0		290.4	0.0		290.4	0.0		290.4	0.0		290.4	0.0		290.4	0.0		290.4	0.0		290.4	0.0		290.4	0.0		290.4	0.0		290.4	0.0
Yr Total Cost:	6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0
Cum Total Cost:	6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0		6,938	0

Resource: Res Dept:	ELECTRICIAN 947	Overtime:	LABOR																													
			Class:		EOC: HOU		EOC: HOU		EOC: HOU		EOC: HOU		EOC: HOU		EOC: HOU																	
Yr Hours:	145.2	174.7	Oct 00- Sep 01	145.2	174.7	Oct 01- Sep 02	174.7	174.7	Oct 02- Sep 03	174.7	38.7	Oct 03- Sep 04	669.3	708.0	Oct 04- Sep 05	708.0	708.0	Oct 05- Sep 06	708.0	708.0	Oct 06- Sep 07	708.0	708.0	Oct 07- Sep 08	708.0	708.0	Oct 08- Sep 09	708.0	708.0	Oct 09- Sep 10	708.0	708.0
Cum Hours:	145.2	174.7		145.2	174.7		319.9	494.6		494.6	6,104		669.3	708.0		708.0	708.0		708.0	708.0		708.0	708.0		708.0	708.0		708.0	708.0		708.0	708.0
Yr Total Cost:	4,551	6,104		4,551	6,104		5,763	6,104		6,104	1,517		6,464	1,517		1,517	24,399		24,399	24,399		24,399	24,399		24,399	24,399		24,399	24,399		24,399	24,399
Cum Total Cost:	4,551	6,104		4,551	6,104		10,314	16,418		16,418	16,418		22,882	24,399		24,399	24,399		24,399	24,399		24,399	24,399		24,399	24,399		24,399	24,399		24,399	24,399

Resource: Res Dept:	ENGINEER 947	Overtime:	LABOR																													
			Class:		EOC: SAL		EOC: SAL		EOC: SAL		EOC: SAL		EOC: SAL		EOC: SAL																	
Yr Hours:	202.1	13,896	Oct 00- Sep 01	202.1	13,896	Oct 01- Sep 02	0.0	0.0	Oct 02- Sep 03	0.0	0.0	Oct 03- Sep 04	0.0	0.0	Oct 04- Sep 05	0.0	0.0	Oct 05- Sep 06	0.0	0.0	Oct 06- Sep 07	0.0	0.0	Oct 07- Sep 08	0.0	0.0	Oct 08- Sep 09	0.0	0.0	Oct 09- Sep 10	0.0	0.0
Cum Hours:	202.1	13,896		202.1	13,896		202.1	202.1		202.1	202.1		202.1	202.1		202.1	202.1		202.1	202.1		202.1	202.1		202.1	202.1		202.1	202.1		202.1	202.1
Yr Total Cost:	13,896	13,896		13,896	13,896		0	0		0	0		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896
Cum Total Cost:	13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896		13,896	13,896

Resource: Res Dept:	ENGINEERING MGR 947	Overtime:	LABOR																													
			Class:		EOC: SAL		EOC: SAL		EOC: SAL		EOC: SAL		EOC: SAL		EOC: SAL																	
Yr Hours:	569.0	34,026	Oct 00- Sep 01	569.0	34,026	Oct 01- Sep 02	0.0	0.0	Oct 02- Sep 03	0.0	0.0	Oct 03- Sep 04	569.0	569.0	Oct 04- Sep 05	569.0	569.0	Oct 05- Sep 06	569.0	569.0	Oct 06- Sep 07	569.0	569.0	Oct 07- Sep 08	569.0	569.0	Oct 08- Sep 09	569.0	569.0	Oct 09- Sep 10	569.0	569.0
Cum Hours:	569.0	34,026		569.0	34,026		569.0	569.0		569.0	569.0		569.0	569.0		569.0	569.0		569.0	569.0		569.0	569.0		569.0	569.0		569.0	569.0		569.0	569.0
Yr Total Cost:	34,026	34,026		34,026	34,026		0	0		0	0		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026
Cum Total Cost:	34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026		34,026	34,026

Fluor Fernald, Inc.

PBS: OHFN05
WBS: 1.1.F.C
CTRL ACCT: FDEC
CHARGE NO: FDEC5
COMMENT NO: F-05-001

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

Resource:	ENSRP	ENVR SCIENCE REP	Class:		EOC:	LABOR	
Res Dept:	947	Overtime:	Oct 01-	Oct 02-	SAL	Oct 03-	Oct 04-
			Sep 02	Sep 03		Sep 04	Sep 05
			Oct 01-	Oct 02-		Oct 03-	Oct 04-
			Sep 02	Sep 03		Sep 04	Sep 05
Yr Hours:		Oct 00-	0.0	0.0		0.0	0.0
Cum Hours:		Sep 01	145.2	145.2		145.2	145.2
Yr Total Cost:			0	0		0	0
Cum Total Cost:			6,093	6,093		6,093	6,093

Resource:	INDMEC	INDUSTRIAL MECHANIC	Class:		EOC:	LABOR	
Res Dept:	947	Overtime:	Oct 01-	Oct 02-	HOU	Oct 03-	Oct 04-
			Sep 02	Sep 03		Sep 04	Sep 05
			Oct 01-	Oct 02-		Sep 04	Sep 05
Yr Hours:		Oct 00-	0.0	0.0		0.0	0.0
Cum Hours:		Sep 01	698.8	698.8		698.8	698.8
Yr Total Cost:			1,424.8	2,123.6		2,822.4	3,020.7
Cum Total Cost:			23,140	24,510		25,955	7,802
			45,980	70,490		96,445	104,247

Resource:	INSMEC	INSTRUMENT MECHANIC	Class:		EOC:	LABOR	
Res Dept:	947	Overtime:	Oct 01-	Oct 02-	HOU	Oct 03-	Oct 04-
			Sep 02	Sep 03		Sep 04	Sep 05
			Oct 01-	Oct 02-		Sep 04	Sep 05
Yr Hours:		Oct 00-	174.7	174.7		174.7	38.7
Cum Hours:		Sep 01	145.2	494.6		669.3	708.0
Yr Total Cost:			319.9	6,071		6,429	1,509
Cum Total Cost:			5,732	16,329		22,758	24,266
			10,258				

Resource:	INSREP	INFO SYSTEMS REP	Class:		EOC:	LABOR	
Res Dept:	947	Overtime:	Oct 01-	Oct 02-	SAL	Oct 03-	Oct 04-
			Sep 02	Sep 03		Sep 04	Sep 05
			Oct 01-	Oct 02-		Sep 04	Sep 05
Yr Hours:		Oct 00-	0.0	0.0		0.0	0.0
Cum Hours:		Sep 01	12.6	12.6		12.6	12.6
Yr Total Cost:			0	0		0	0
Cum Total Cost:			627	627		627	627

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05
WBS: 1.1.F.C
CTRL ACCT: FDEC
CHARGE NO: FDEC5
COMMENT NO: F-05-001

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Kari Spring
FISCAL YEAR: 01-05

Resource:	Res Dept:	LOC SWM 947	LOC MOTIVE SWITCHMAN		Class:	EOC:		LABOR					
			OverTime:			HOU							
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02		Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			8,712.0	10,482.0		10,482.0	40,158.0	42,915.0	42,915.0	42,915.0	42,915.0	42,915.0	42,915.0
Yr Total Cost:			274,080	347,103		367,651	389,328	108,472	0	0	0	0	0
Cum Total Cost:			274,080	621,182		988,833	1,378,161	1,486,634	1,486,634	1,486,634	1,486,634	1,486,634	1,486,634

Resource:	Res Dept:	MAT300 947	MATERIAL OBJCLASS300		Class:	EOC:		MATERIAL					
			OverTime:			MAT							
Yr Units:			Oct 00- Sep 01	Oct 01- Sep 02		Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Units:			83,330.0	100,000.0		100,000.0	100,000.0	75,000.0	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:			83,330.0	183,330.0		283,330.0	383,330.0	458,330.0	458,330.0	458,330.0	458,330.0	458,330.0	458,330.0
Cum Total Cost:			83,330	102,700		105,473	108,426	83,597	0	0	0	0	0
			83,330	186,030		291,503	399,929	483,526	483,526	483,526	483,526	483,526	483,526

Resource:	Res Dept:	MILLWRT 947	MILLWRIGHT		Class:	EOC:		LABOR					
			OverTime:			HOU							
Yr Hours:			Oct 00- Sep 01	Oct 01- Sep 02		Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			145.2	174.7		174.7	174.7	82.2	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:			4,538	5,746		6,087	6,445	3,213	0	0	0	0	0
Cum Total Cost:			4,538	10,284		16,371	22,816	26,029	26,029	26,029	26,029	26,029	26,029

Resource:	Res Dept:	ODCTRVL 947	TRAVEL RESOURCE		Class:	EOC:		ODC					
			OverTime:			ODC							
Yr Units:			Oct 00- Sep 01	Oct 01- Sep 02		Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Units:			8,000.0	16,000.0		8,000.0	32,000.0	40,000.0	40,000.0	40,000.0	40,000.0	40,000.0	40,000.0
Yr Total Cost:			8,000	8,216		8,438	8,674	8,917	0	0	0	0	0
Cum Total Cost:			8,000	16,216		24,654	33,328	42,245	42,245	42,245	42,245	42,245	42,245

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

PBS: OHFN05

WBS: 1.1.F.C
CTRL ACCT: FDEC
CHARGE NO: FDEC5
COMMENT NO: F-05-001

Resource:	OILERM	OILER MAINTENANCE												OPERATIONS MGR											
Res Dept:	947	Class:												Class:											
		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:							
		HOU		HOU		HOU		HOU		HOU		HOU		HOU		HOU		HOU							
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10				
Cum Hours:		145.2	174.7	174.7	174.7	82.2	0.0	0.0	0.0	0.0	0.0	145.2	174.7	174.7	822.0	0.0	0.0	0.0	0.0	0.0	0.0				
Yr Total Cost:		145.2	319.9	494.6	669.3	751.5	751.5	751.5	751.5	751.5	751.5	145.2	319.9	494.6	6,398.0	8,967.0	8,967.0	8,967.0	8,967.0	8,967.0	8,967.0				
Cum Total Cost:		3,858	4,886	5,175	5,480	2,731	0	0	0	0	0	151,821	96,135	101,827	53,744	0	0	0	0	0	0				
		3,858	8,744	13,919	19,399	22,131	22,131	22,131	22,131	22,131	22,131	151,821	247,957	349,783	457,614	511,358	511,358	511,358	511,358	511,358	511,358				

Resource:	PAINTR	PAINTER												PROJECT SUPPORT MGR											
Res Dept:	947	Class:												Class:											
		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:					
		HOU		HOU		HOU		HOU		HOU		HOU		HOU		HOU		HOU		HOU					
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10				
Cum Hours:		435.6	524.1	524.1	524.1	116.1	0.0	0.0	0.0	0.0	0.0	435.6	524.1	524.1	2,007.9	2,124.0	2,124.0	2,124.0	2,124.0	2,124.0	2,124.0				
Yr Total Cost:		13,704	17,355	18,383	19,466	4,568	0	0	0	0	0	13,704	17,355	18,383	19,466	73,476	73,476	73,476	73,476	73,476	73,476				
Cum Total Cost:		13,704	31,059	49,442	68,908	73,476	0	0	0	0	0	13,704	31,059	49,442	68,908	142,384	215,860	289,336	362,812	436,288	510,764				

Resource:	PJSMGR	PROJECT SUPPORT MGR												PROJECT SUPPORT MGR											
Res Dept:	947	Class:												Class:											
		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:		EOC:					
		HOU		HOU		HOU		HOU		HOU		HOU		HOU		HOU		HOU		HOU					
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10				
Cum Hours:		1,452.0	1,747.0	1,747.0	1,747.0	604.5	0.0	0.0	0.0	0.0	0.0	1,452.0	1,747.0	1,747.0	6,693.0	7,297.5	7,297.5	7,297.5	7,297.5	7,297.5	7,297.5				
Yr Total Cost:		66,385	84,073	89,050	94,300	34,564	0	0	0	0	0	66,385	84,073	89,050	94,300	345,664	368,372	368,372	368,372	368,372	368,372				
Cum Total Cost:		66,385	150,458	239,508	333,808	368,372	0	0	0	0	0	66,385	150,458	239,508	333,808	679,464	1,047,836	1,416,208	1,784,580	2,152,952	2,521,324				

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01

PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Kari Spryng
FISCAL YEAR: 01-05

PBS: OHFN05

WBS: 1.1.F.C

CTRL ACCT: FDEC

CHARGE NO: FDEC5

COMMENT NO: F-05-001

Resource:	SERV SUB	SUBS	TECH/PROG SUPT REP	LABOR	SUBCONTRACTORS					
Res Dept:	947	Overtime:	Overtime:	Class:	Class:					
			EOC:	EOC:	EOC:					
			SUB	SAL	SUB					
Yr Units:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Units:	41,667.0	50,000.0	50,000.0	191,667.0	226,667.0	226,667.0	226,667.0	226,667.0	226,667.0	226,667.0
Yr Total Cost:	41,667	51,350	52,736	54,213	39,012	0	0	0	0	0
Cum Total Cost:	41,667	93,017	145,753	199,967	238,978	238,978	238,978	238,978	238,978	238,978

Resource:	TPS REP	WASTE ENGINEER	LABOR	SUBCONTRACTORS						
Res Dept:	947	Overtime:	Class:	Class:						
		EOC:	EOC:	EOC:						
		SAL	SAL	SUB						
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	1,597.2	1,747.0	1,747.0	6,838.2	7,660.2	7,660.2	7,660.2	7,660.2	7,660.2	7,660.2
Yr Total Cost:	82,991	3,344.2	5,091.2	107,170	53,415	0	0	0	0	0
Cum Total Cost:	82,991	178,538	279,741	386,911	440,326	440,326	440,326	440,326	440,326	440,326

Resource:	WSTENG	LABOR	SUBCONTRACTORS							
Res Dept:	947	Overtime:	Class:							
		EOC:	EOC:							
		SAL	SUB							
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	1,016.4	0.0	0.0	1,016.4	1,016.4	1,016.4	1,016.4	1,016.4	1,016.4	1,016.4
Yr Total Cost:	51,867	1,016.4	1,016.4	0	51,867	51,867	51,867	51,867	51,867	51,867
Cum Total Cost:	51,867	51,867	51,867	51,867	51,867	51,867	51,867	51,867	51,867	51,867

Resource:	WSTENG	LABOR	SUBCONTRACTORS							
Res Dept:	947	Overtime:	Class:							
		EOC:	EOC:							
		SAL	SUB							
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	22,854.1	21,488.1	21,488.1	87,318.4	94,253.5	94,253.5	94,253.5	94,253.5	94,253.5	94,253.5
Yr Total Cost:	1,020,456	984,439	1,037,493	1,093,504	460,938	0	0	0	0	0
Cum Total Cost:	1,020,456	2,004,895	3,042,389	4,135,893	4,596,831	4,596,831	4,596,831	4,596,831	4,596,831	4,596,831

CAM *Mark Cherry* CONTROL TEAM *Kari Spryng*

FDEC

RAILCAR DISPOSITION

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05
WBS: 1.1.F.C
CTRL ACCT: FDEC
CHARGE NO: FDEC
COMMENT NO: F-05-001, F-05-006

DATE: 9/8/01

PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Kari Spring
FISCAL YEAR: 01-05

Resource: ELECTN Res Dept: 947	ELECTRICIAN Overtime:	Class:	EOC: HOU	LABOR						
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	61.0 61.0	0.0 61.0	0.0 61.0	0.0 61.0	0.0 61.0	0.0 61.0
Yr Total Cost:	0	0	0	0	2,390	0	0	0	0	0
Cum Total Cost:	0	0	0	0	2,390	2,390	2,390	2,390	2,390	2,390

Resource: HAZWAT Res Dept: 947	HAZWAT Overtime:	Class:	EOC: HOU	LABOR						
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	594.8 594.8	0.0 594.8	0.0 594.8	0.0 594.8	0.0 594.8	0.0 594.8
Yr Total Cost:	0	0	0	0	21,416	0	0	0	0	0
Cum Total Cost:	0	0	0	0	21,416	21,416	21,416	21,416	21,416	21,416

Resource: INDMEC Res Dept: 947	INDUSTRIAL MECHANIC Overtime:	Class:	EOC: HOU	LABOR						
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	61.0 61.0	0.0 61.0	0.0 61.0	0.0 61.0	0.0 61.0	0.0 61.0
Yr Total Cost:	0	0	0	0	2,399	0	0	0	0	0
Cum Total Cost:	0	0	0	0	2,399	2,399	2,399	2,399	2,399	2,399

Resource: INSMEC Res Dept: 947	INSTRUMENT MECHANIC Overtime:	Class:	EOC: HOU	LABOR						
Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	59.4 59.4	0.0 59.4	0.0 59.4	0.0 59.4	0.0 59.4	0.0 59.4
Yr Total Cost:	0	0	0	0	2,314	0	0	0	0	0
Cum Total Cost:	0	0	0	0	2,314	2,314	2,314	2,314	2,314	2,314

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05

WBS: 1.1.F.C

CTRL ACCT: FDEC

CHARGE NO: FDEC

COMMENT NO: F-05-001, F-05-006

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Karl Spring

FISCAL YEAR: 01-05

Resource: **LOC SWIM** **LOCOMOTIVE SWITCHMAN** **EOC:** **LABOR**
Res Dept: **947** **Class:** **HOU**

Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	0.0	0.0	0.0	0.0	1,219.4	1,219.4	1,219.4	1,219.4	1,219.4	1,219.4
Yr Total Cost:	0	0	0	0	47,978	47,978	47,978	47,978	47,978	47,978
Cum Total Cost:	0	0	0	0	47,978	47,978	47,978	47,978	47,978	47,978

Resource: **MAT300** **MATERIAL OBJCLASS300** **EOC:** **MATERIAL**
Res Dept: **947** **Class:** **MAT**

Yr Units:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Units:	0.0	0.0	0.0	0.0	25,000.0	25,000.0	25,000.0	25,000.0	25,000.0	25,000.0
Yr Total Cost:	0	0	0	0	27,866	27,866	27,866	27,866	27,866	27,866
Cum Total Cost:	0	0	0	0	27,866	27,866	27,866	27,866	27,866	27,866

Resource: **MILWRT** **MILLWRIGHT** **EOC:** **LABOR**
Res Dept: **947** **Class:** **HOU**

Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	0.0	0.0	0.0	0.0	574.0	574.0	574.0	574.0	574.0	574.0
Yr Total Cost:	0	0	0	0	22,433	22,433	22,433	22,433	22,433	22,433
Cum Total Cost:	0	0	0	0	22,433	22,433	22,433	22,433	22,433	22,433

Resource: **PJSMGR** **PROJECT SUPPORT MGR** **EOC:** **LABOR**
Res Dept: **947** **Class:** **SAL**

Yr Hours:	Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:	0.0	0.0	0.0	0.0	360.9	360.9	360.9	360.9	360.9	360.9
Yr Total Cost:	0	0	0	0	20,633	20,633	20,633	20,633	20,633	20,633
Cum Total Cost:	0	0	0	0	20,633	20,633	20,633	20,633	20,633	20,633

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN05

WBS: 1.1.F.C

CTRL ACCT: FDEC

CHARGE NO: FDEC

COMMENT NO: F-05-001, F-05-006

DATE: 9/8/01

PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Kari Spring
FISCAL YEAR: 01-05

Resource: Res Dept:	QACTEC 947	QA/QC TECH Overtime:	Class:		EOC: SAL		LABOR											
			Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10							
Yr Hours:		0.0	0.0	0.0	0.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0
Cum Hours:		0.0	0.0	0.0	0.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0	89.0
Yr Total Cost:		0	0	0	0	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436
Cum Total Cost:		0	0	0	0	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436	3,436

Resource: Res Dept:	RADTEC 947	RAD TECH Overtime:	Class:		EOC: SAL		LABOR											
			Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10							
Yr Hours:		0.0	0.0	0.0	0.0	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7
Cum Hours:		0.0	0.0	0.0	0.0	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7	525.7
Yr Total Cost:		0	0	0	0	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406
Cum Total Cost:		0	0	0	0	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406	22,406

Resource: Res Dept:	S&HENG 947	SAFETY ENGINEER Overtime:	Class:		EOC: SAL		LABOR											
			Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10							
Yr Hours:		0.0	0.0	0.0	0.0	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8
Cum Hours:		0.0	0.0	0.0	0.0	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8
Yr Total Cost:		0	0	0	0	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332
Cum Total Cost:		0	0	0	0	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332	5,332

GRAND TOTALS:

Resource: Res Dept:	CAM	Overtime:	Class:		EOC: SAL		LABOR											
			Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10							
Yr Hours:		0.0	0.0	0.0	0.0	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9
Cum Hours:		0.0	0.0	0.0	0.0	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9	3,630.9
Yr Total Cost:		0	0	0	0	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603
Cum Total Cost:		0	0	0	0	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603	178,603

CAM

Mark Cherry
CONTROL TEAM

Mark Cherry

FDEC

RAILCAR SHIPPING

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

PBS: OHFN05
WBS: 1.1.F.C
CTRL ACCT: FDEC
CHARGE NO: FDEC
COMMENT NO: F-05-004

Resource:	MAT300	MATERIAL OBJCLASS300		EOC:		MATERIAL		EOC:		MATERIAL							
		OverTime:	CSXT	Class:	MAT	MAT	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-		
Res Dept:	947																
Yr Units:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10						
Cum Units:		8,231,677.0	10,920,000.0	10,587,500.0	11,091,650.0	4,480,000.0	0.0	0.0	0.0	0.0	0.0						
Yr Total Cost:		8,231,677	19,151,677.0	29,739,177.0	40,830,827.0	45,310,827.0	45,310,827.0	45,310,827.0	45,310,827.0	45,310,827.0	45,310,827.0						
Cum Total Cost:		8,231,677	11,214,840	11,166,943	12,026,248	4,993,501	0	0	0	0	0						
		8,231,677	19,446,517	30,613,460	42,639,708	47,633,209	47,633,209	47,633,209	47,633,209	47,633,209	47,633,209						

GRAND TOTALS:

Yr Total Cost:	8,231,677	11,214,840	11,166,943	12,026,248	4,993,501	0	0	0	0	0	0						
Cum Total Cost:	8,231,677	19,446,517	30,613,460	42,639,708	47,633,209	47,633,209	47,633,209	47,633,209	47,633,209	47,633,209	47,633,209						

CAM *March*

CONTROL TEAM *Jim*

SECTION 3

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: Ship & Disposal Operations		PBS Number: 05		Total Baseline Dollars (Minimum Case):		\$52,408,642				
Evaluator: Bensen		Date: April 20, 2001		WBS Number: 1.1.F.C						
CAM: Jeff Rowe		Date: April 20, 2001		Control Account Number: FECD						
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost (Maximum Case)	Risk Level	Risk Probability %	Risk Probability Level	Probable Cost (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Waste Processing	Minor delays due to utility shortfalls, groundwater intrusion, funding shortfall and/or processing delays	2 month schedule extension	Internal	\$310,000.00	2	70	4	\$217,000.00	3	Reduce Risks
Waste Shipping	Major delays due to railcar leaking, railcar accident, etc.	6 month schedule extension	Internal	\$930,000.00	4	5	1	\$46,500.00	3	Reduce Risk
Waste Processing	Higher density and optimum moisture waste causes an additional 100,000 tons	1-year-schedule-extension-to-ship/didispose-of-additional-tons	Internal	\$22,600,000.00	5	95	5	\$21,375,000.00	12	Accept
Waste Processing	Higher density and optimum moisture waste causes an additional 80,000 tons	9-month-schedule-extension-to-ship/didispose-of-additional-tons	Internal	\$22,500,000.00	5	70	R1-E-764	\$15,750,000.00	R1-D-680 R1-E-764	Reduce/Mitigate
Waste Processing	Higher density and optimum moisture waste causes an additional 80,000 tons	9-month-schedule-extension-to-ship/didispose-of-additional-tons	Internal	\$17,000,000.00	5	70	4	\$11,900,000.00	12	Reduce/Mitigate
Waste Processing	Higher density and optimum moisture waste causes an additional 80,000 tons	9-month-schedule-extension-to-ship/didispose-of-additional-tons	Internal	\$7,000,000.00	5	50	R1-E-764	\$8,150,000.00	12	Reduce/Mitigate
Subsoils Excavation	Delays due to sequencing changes in subsoil excavation and dryer utilization	3 month schedule extension	Internal	\$465,000.00	3	60	4	\$279,000.00	5	Reduce/Mitigate
Subsoil Excavation	Additional 1-ft-of-pit-subsurface-soils-goes-to-Escare	Processing additional 60,000-tons-of-soils-adds-6-months-of-operation	Internal	\$10,000,000.00	5	50	3	\$6,000,000.00	10	Accept
Subsoil Excavation	Additional 1-ft-of-pit-subsurface-soils-goes-to-Escare	Processing additional 60,000-tons-of-soils-adds-3-months-of-operation	Internal	\$3,000,000.00	3	30	3	\$3,000,000.00	10	Reduce/Mitigate
Railcar Disposition	Additional 1-ft-of-pit-subsurface-soils-goes-to-Escare	Processing additional 60,000-tons-of-soils-adds-3-months-of-operation	Internal	\$2,000,000.00	3	25	2	\$500,000.00	3	Reduce/Mitigate

Risk/Opportunity Identification and Analysis Form

Project: Ship & Disposal Operations		PBS Number:05		Total Baseline Dollars (Minimum Case):		\$52,408,642				
Evaluator:Bensen Date: April 20, 2001		WBS Number:1.1.F.C		Control Account Number:FDEC						
CAM:Jeff Rowe Date: April 20, 2001		Potential Impact		Internal Impact Or External Driver		Impact Cost (Maximum Case)				
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost (Maximum Case)	Risk Level	Risk Impact %	Risk Probability Level	Probable Cost (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Waste Processing	Additional controls required for addressing radiological airborne levels	3 month schedule extension and cost increase	Internal	\$465,000.00	3	25	2	\$116,250.00	3	Accept
Shipping & Disposal	Locomotive/Trackmobile Replacement	Cost/Schedule Increase	Internal	\$650,000.00	2	25	2	\$162,500.00	2	Accept/Reduce with maintenance

Total:	\$54,320,000.00	Total:	\$30,571,250.00
--------	-----------------	--------	-----------------

Shipping & Disposal	Rail Tender Increase	Cost Increase	External	\$1,000,000.00	3	50	4	\$500,000.00	3
Shipping & Disposal	Utah imposes state tax on waste beginning in 2002	Cost Increase	External	\$4,605,000.00	3	25	2	\$1,151,250.00	3
Waste Shipping	Major delays due to Ecare Shutdown	6 month schedule extension	External	\$930,000.00	4	25	2	\$232,500.00	5
Waste Processing	Additional tonnage due to Th-230 constraints at Envirocare	Additional 160,000 tons to be shipped, 15 month extension	External	\$162,505,000.00	5	70	4	\$100,805,250.00	11

**Non-Typical
Waste Disposition**

WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER

U.S. DEPARTMENT OF ENERGY
 WORK BREAKDOWN STRUCTURE DICTIONARY
 PART II - ELEMENT DEFINITION

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE OF CONTRACT 12/01/2000	
3. IDENTIFICATION NUMBER DE-AC24-01OH20115		4. INDEX LINE NO. 45	
5. WBS ELEMENT CODE 1.1.F.D		6. WBS ELEMENT TITLE NON TYPICAL WASTE	
7. APPROVED CP NO. NEW PER CP# FY01-0115-0005-00		8. DATE OF CHANGES 12/01/2000	
9. SYSTEM DESIGN DESCRIPTION CERCLA/ACA		10. BUDGET AND REPORTING NUMBER EW05H3050	
11. ELEMENT TASK DESCRIPTION			
<p><u>a. ELEMENTS OF COST:</u></p> <p>Labor Materials Subcontracts ODCs</p> <p><u>b. TECHNICAL CONTENT:</u></p> <p>Through the excavation of the OUI waste pits, it is assumed that a certain amount of non-typical waste material will be excavated by IT as a part of its normal excavation operations. Non-typical wastes are those materials which, after processing (e.g., blending, drying, size-reduction, etc.), still do not meet the Envirocare Waste Acceptance Criteria (WAC).</p> <p>Activities included in this element are defined in the following Work Scope Definition Work Package:</p> <p>FNTW1 Non-Typical Waste Operations</p> <p><u>c. SCOPE OF WORK:</u></p> <p>Non-typical waste scope consists of containerized transport to storage, storage, characterization, treatment, shipment, and disposal of non-typical waste encountered and/or generated during excavation of the waste pits.</p> <p>Work scope is further defined in the following Work Scope Definition Work Package:</p> <p>FNTW1 Non-Typical Waste Operations</p>			

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.D	4. WBS ELEMENT TITLE/NAME NON TYPICAL WASTE		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 6/05	
12. TASK IDENTIFICATION (CONTROL ACCOUNT) FNTW	13. TASK DESCRIPTION (ONE LINE) NON-TYPICAL WASTE DISPOSITION		

14. ELEMENT TASK DESCRIPTION

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements:

- 1.1.F.A Management**
- 1.1.F.B Load Out Operations**
- 1.1.F.C Shipping and Disposal Operations**

**WORK SCOPE DEFINITION
(Control Account)**

1. PROJECT TITLE FEMP (DEFENSE)	2. DATE 12/01/2000	Page 1
---	------------------------------	--------

3. WBS ELEMENT CODE 1.1.F.D	4. WBS ELEMENT TITLE/NAME NON TYPICAL WASTE
---------------------------------------	---

5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ
--	---	--

8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS
--	--------------------------------------

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00	11. ESTIMATED START / COMPLETION DATE 12/00 - 6/05
--	--

12. TASK IDENTIFICATION (CONTROL ACCOUNT) FNTW	13. TASK DESCRIPTION (ONE LINE) NON-TYPICAL WASTE DISPOSITION
--	---

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODCs

b. TECHNICAL CONTENT:

Ten thousand (10,000) cubic feet of non-typical waste material is assumed to be encountered.

Work scope and exclusions are further defined in the following Work Scope Definition Work Package:

FNTW1 Non-Typical Waste Operations

c. SCOPE OF WORK:

The scope of work for this control account includes:

Plan development for non-typical waste
Characterization of the non-typical waste
Segregation and packaging of the non-typical waste
Transfer of the non-typical waste
Storage of the non-typical waste
Treatment and disposal of the non-typical waste
Acquisition of containers for the non-typical waste

Project Manager <i>Mark Oly</i>	Control Account Manager <i>Mark Oly</i>	Control Team Manager <i>Lari King</i>
------------------------------------	--	--

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 1
3. WBS ELEMENT CODE 1.1.F.D	4. WBS ELEMENT TITLE/NAME NON TYPICAL WASTE		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 6/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FNTW1	13. TASK DESCRIPTION (ONE LINE) NON-TYPICAL WASTE OPERATIONS		

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts
ODCs

b. TECHNICAL CONTENT:

Ten thousand (10,000) cubic feet of non-typical waste material is assumed to be encountered.

c. SCOPE OF WORK:

Non-Typical Waste Operations scope of work consists of plan development, characterization, segregation and packaging, transfer to WGS, storage, treatment and disposal, and the procurement of containers. WPRAP personnel will perform the plan development, the characterization and the segregation and packaging. WGS will perform the transfer activities, arrange the treatment and disposal and the procurement of the containers. This will all be charged to FNTW1 with the exception of the sampling effort under characterization, this labor is accounted for under FCBBX.

The non-typical waste encountered during bin sampling, has been so designated because sampling has shown it to be RCRA characteristic for hazardous metals. The plan would be to transport this material by truck to an off-site vendor for treatment (assumed to be Broad Spectrum). Treatment costs will include disposal

Project Manager <i>Mark G. [Signature]</i>	Control Account Manager <i>Mark G. [Signature]</i>	Control Team Manager <i>Kari [Signature]</i>
---	---	---

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE FEMP (DEFENSE)		2. DATE 12/01/2000	Page 2
3. WBS ELEMENT CODE 1.1.F.D	4. WBS ELEMENT TITLE/NAME NON TYPICAL WASTE		
5. PERFORMING DIV/DEPARTMENT CODE 47	6. ORIGINATOR NAME/PHONE CHERRY MJ 648-3786	7. WBS ELEMENT MANAGER CHERRY MJ	
8. BUDGET AND REPORTING NUMBER EW05H3050	9. BUDGET TITLE WASTE PITS		
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE? NEW PER CP# FY01-0115-0005-00		11. ESTIMATED START / COMPLETION DATE 12/00 - 6/05	
12. TASK IDENTIFICATION (WORK PACKAGE) FNTW1	13. TASK DESCRIPTION (ONE LINE) NON-TYPICAL WASTE OPERATIONS		

14. ELEMENT TASK DESCRIPTION

of the treated waste at Envirocare.
The assumption is that this quantity will be encountered through eight bin failures of 1,250 cubic feet each, with the failure due to the material being RCRA characteristic for hazardous metals. These campaigns (i.e., to manage the bin failures) have been assumed to occur as follows: one in FY01; two in FY02; three in FY03; and two in FY04. In that it will take approximately one year from the time that WGS receives the waste from WPRAP, until it is sent off-site by WGS for treatment/disposal, it is being assumed that the resources will not be expended until one year of the non-typical waste being encountered.

d. WORK SPECIFICALLY EXCLUDED:

Excluded is work specifically defined in support of the following PBS05 WBS elements:

- 1.1.F.A Managements
- 1.1.F.B Load Out Operations
- 1.1.F.C Shipping and Disposal Operations

Excluded are IT costs for management of the non-typical wastes, and WPRAP Fluor Fernald costs for oversight of these IT activities.

Excluded beginning in FY02, are all resources provided by WAO, in support of non-typical waste disposition, they are to reside in PBS-12.

Excluded are labor costs for the sampling effort under characterization, this labor is in FCBBX.

SECTION 4

1.0 NARRATIVE

1. PROJECT TITLE: WASTE PITS PROJECT	2. DATE: 09/10/01	3. PBS#: 05
4. WBS ELEMENT CODE: 1.1.F.D.	5. WBS ELEMENT TITLE: NON-TYPICAL WASTE DISPOSITION	
6. CAM NAME/ PHONE: MARK CHERRY	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9. CONTROL ACCOUNT: FNTW	

SECTION 4: FNTW – NON-TYPICAL WASTE DISPOSITION

1.0 NARRATIVE

1.1 OVERVIEW – FNTW1 – NON-TYPICAL WASTE OPERATIONS

In the event that IT identifies any non-typical wastes during its waste processing activities, these wastes are to be turned over to Fluor Fernald Waste Generator Services (WGS) for management, including necessary treatment and disposal. Specifically, it is assumed that a certain amount of non-typical waste material will be encountered by IT as a part of its waste processing operations. Non-typical wastes are those materials which, after processing (e.g., blending, drying, size-reduction, etc.), still do not meet the Envirocare Waste Acceptance Criteria (WAC). Charge number FNTW1 covers the services to be performed by WGS relative to the management of these non-typical wastes.

1.2 ASSUMPTIONS/EXCLUSIONS – FNTW1 – NON-TYPICAL WASTE OPERATIONS

1. No non-typical wastes will be encountered after FY04, when excavation of the waste pit materials are expected to be complete.
2. For planning purposes, it is assumed that the only non-typical wastes which will be encountered, are materials found to be RCRA characteristic for inorganic constituents, through the bin sampling in the Railcar Loadout Building (RLB).
3. 10,000 ft³ of non-typical waste will be generated through the processing of the waste pit materials, over the remainder of the project.
4. There will be eight bin failures over the remainder of the project, and each time sampling of the waste will allow the project to carve out a small portion of the bin as being non-compliant. Specifically, about 1,250 ft³ of material will need to be addressed as non-typical waste in each of these eight instances.
5. The bin failures are assumed to occur as follows: one in FY01; two in FY02; three in FY03; and two in FY04.

6. WPRAP personnel assigned to Operations Oversight and/or Project Management, will be responsible for the development of the specific sampling program to be used in assessing the extent of the contamination. This plan will also propose the path forward for isolating any non-compliant materials.
7. Per the WPRAP Waste Materials Sampling and Analysis Plan, the event-specific bin sampling plan will be submitted to OEPA/USEPA for review and approval.
8. Bin sampling will be conducted using existing WPRAP Fluor Fernald resources. Specifically, the sampling effort will be implemented using FAT&LC personnel assigned to the project (and accounted for under Waste Pit Operations).
9. Thirty samples will be required each time that a non-compliant bin is encountered, with these samples analyzed through the FEMP laboratory.
10. Material from a bin failure will be loaded by IT (under the existing subcontract) into three IP1 inter-modal containers provided by WGS.
11. WGS will be responsible for performing the following activities: campaign planning; sampling and visual characterization; characterization; containers and necessary prepping; container movements; loading and shipping; and treatment and disposal. WGS will identify the needed resources, and WPRAP will budget for those resources.
12. For planning purposes, it has been assumed that it will take one year from the time that WGS receives the waste from WPRAP, until it is dispositioned off site by WGS.
13. Treatment of the non-typical waste will be through an off-site vendor (i.e., Broad Spectrum), with the cost for management by this vendor including the cost for burial at Envirocare.

Specific Exclusions

1. IT costs for management of the non-typical wastes, and WPRAP Fluor Fernald costs for oversight of these IT activities.
2. Beginning in FY02, all resources provided by WAO, in support of non-typical waste disposition (as described in the following sections); rather, they are to reside in PBS-12.

Government-Furnished Equipment/Services

None

1.3 DRIVERS – FNTW1 – NON-TYPICAL WASTE OPERATIONS

1. Various EPA approved documents, such as the Remedial Design Work Plan, the Remedial Action Work Plan, the WPRAP Remedial Design Package, the WPRAP Remedial Action Package, and the WPRAP Non-Typical Waste Management Plan – which define how non-typical waste is to be managed (including the process for trying to carve out a portion of a failed bin through sampling).
2. The IT Subcontract (#98SC000001) – which defines both Fluor Fernald and IT responsibilities relative to the management of any non-typical waste encountered by IT during waste processing.
3. Appendix N of the Integrated Waste Management Plan (IWMP) – which defines WGS support for the transfer of non-typical waste from WPRAP to WGS.
4. Appendix E of the IWMP – which defines the cost estimating process to be used by WGS as the basis for estimating the cost for WGS management of various FEMP waste streams.

1.4 PROJECT PHYSICAL DESCRIPTION – FNTW1 – NON-TYPICAL WASTE OPERATIONS

During the course of material processing, it is anticipated that some amount of non-typical waste would be encountered. Non-typical wastes are those materials which, after processing (e.g., blending, drying, size-reduction, etc.), still do not meet the Envirocare WAC. For the purposes of this plan, the non-typical wastes which will need to be managed will have been discovered through analysis of the waste material during the processing of the material by IT. Specifically, through the sampling of material placed in the RLB bins, RCRA characteristic wastes would be encountered, which would be classified as non-typical waste.

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION – FNTW1 – NON-TYPICAL WASTE OPERATIONS

1.5.1 Plan/Scope – Non-Typical Waste Operations

This plan/scope covers the activities and resources required by Fluor Fernald WGS to properly manage any wastes identified by IT as being non-typical. Under the IT subcontract, IT is responsible for certain activities, upon discovery of any non-typical waste, through packaging and transfer to Fluor Fernald. This plan covers the processes/activities undertaken by WGS to support storage, treatment, and disposal of any such non-typical wastes encountered by IT during its waste processing activities.

For consistency with the prime contract, it is assumed that the non-typical waste which will be generated through the remainder of the OU1 remediation activities will be

10,000 ft³ of soils, which are found through the RLB sampling and analysis to be non-compliant with respect to the Envirocare WAC.

Under this scenario, WPRAP will attempt to carve out the non-compliant portion of the bin. Given the significantly increased expense associated with managing this quantity of material (i.e., about 600 tons) as Envirocare non-compliant waste, this option would involve the taking of additional samples designed to isolate those portions of the 600-ton lot that are contributing to the non-compliance. Those portions causing the exceedence would then be segregated (by IT, under the existing subcontract) for management as non-typical waste.

As previously stated, Fluor Fernald is responsible under the IT subcontract for the disposal of any non-typical wastes found by IT through its waste pit processing activities. To support the eventual disposal of these materials, Fluor Fernald is responsible for ensuring the availability of resources for the following types of activities: planning, containers, segregation and packaging, waste transfer, storage, characterization, and treatment/disposal. The processes associated with these activities, including interfaces with IT, are discussed below.

Planning

Before non-typical waste can be transferred to WGS, there are planning tasks which must be completed by Fluor Fernald. To the extent practical, a number of these tasks have been completed, based on the information available. For example, based on process knowledge, potential non-typical waste streams have been identified, and associated Material Evaluation Forms (MEFs) completed. Using this information, WAO has developed a Project Waste Identification and Disposition (PWID) report and Material Segregation and Containerization Criteria (MSCC) report to identify the disposition and containerization requirements for these specific waste streams.

In general, the non-typical wastes that are expected to be encountered during the remediation of the waste pits have been found and evaluated previously at this site. In fact, systems already exist or can easily be developed for the processing and disposal of such wastes. WGS has pulled together this information, including the MEF numbers, containers, and needed paperwork, for each of the anticipated waste streams, and documented this information in Appendix N of the Integrated Waste Management Plan.

Because of the uncertainties in the quantities of those materials, and the timing within which they would be encountered, not all of the planning can be accomplished ahead of time. In other words, some task order preparation work will need to be completed once it becomes evident what the specific material is, what the volume of material is, etc. Finally, paperwork associated with specific containers of material, which can only be generated when the material is containerized, will need to be developed and processed.

For a bin failure, the specific approach for defining the extent of the problem will be developed when the non-compliant event occurs. Based upon the specific circumstances surrounding the event, a plan will be developed by WPRAP Operations Oversight and/or

Project Management, defining a specific sampling program to be used in assessing the extent of the contamination. This plan will also propose the path forward for isolating any non-compliant materials. Per the WPRAP Waste Materials Sampling and Analysis Plan, this event specific plan will be submitted to OEPA/USEPA for review and approval.

Characterization

In the case of the bin failure, the resultant sampling effort will be conducted using existing WPRAP Fluor Fernald resources, and the FEMP laboratory. Specifically, the sampling effort will be implemented using FAT&LC personnel assigned to the project (and accounted for under Waste Pit Operations). Samples will be analyzed through the FEMP laboratory. It is assumed that approximately 30 samples will be required to support this effort, each time that a non-compliant bin is encountered.

For planning purposes, it is assumed that through the above sampling process the project is able to carve out a small portion of the bin as being non-compliant. Specifically, it is assumed that about 1,250 ft³ of material from the bin (or about a tenth of the bin) will need to be containerized for transfer to WGS for management as non-typical waste.

In support of the off-site disposition of the non-typical waste generated through the OU1 remediation efforts, it may be necessary for WGS to arrange for further characterization of the waste. Although the plan is to perform as much characterization as possible prior to transfer to WGS, WGS may find it necessary to perform additional characterization once waste management responsibility has been transferred from IT to Fluor Fernald. For example, if a new treatment/disposal option becomes available, WGS may be required to perform additional characterization to support this option (e.g., to determine its viability with respect to that waste stream).

Containers

As soon as WPRAP knows the types and quantity of non-compliant waste encountered, WGS will be notified so that any additional planning activities can be initiated, such as ensuring that appropriate containers are made available. With the assumption that 1,250 ft³ of material in a bin were to be managed as non-typical waste, three ISO type containers would probably be used for the transfer and storage of the material.

Fluor Fernald, as required by the subcontract with IT, is responsible for providing containers to IT in which any non-typical wastes are to be placed, for transfer to WGS. IT has designated within its various project documents that the transfer of these containers will take place at a point located between Pits 4 and 6, along the existing road.

When transfer of the material is desired, WGS will be notified of the type of material being staged and an approximate quantity to enable them to select the appropriate containers. Pursuant to the IT subcontract, a request for containers shall be in writing from IT, and shall be forwarded to WPRAP operations oversight personnel five days prior to the need for the containers. This request should specify the number and type of containers to be provided. WPRAP will complete the request for containers form, and forward it to WGS. WGS will coordinate with the WPRAP On-Site Rail Operations Manager for delivery of the

containers. WGS will supply and arrange for transport of suitable containers to the WPRAP non-typical waste transfer point.

From the transfer point, IT is responsible for transferring the containers to the loading location. Specifically, in the case of a bin failure, containers will be taken to the RLB, where the waste is to be loaded by IT. After loading, the container taken back to the temporary storage location after decontamination. This activity will be conducted such that cross-contamination does not occur.

To support the disposition (i.e., direct shipment) of this material off-site, WGS will prep the containers (e.g., with required adsorbent materials) prior to providing them to IT, in an effort to minimize double-handling of this material. The only marking on the empty containers is the Inventory Number, which is assigned before the container is delivered to the waste transfer station.

Upon receipt of the containers, WAO and/or NTS Compliance will perform a visual inspection to ensure that the containers do not contain any freestanding liquids, and that the container is properly prepared.

Segregation and Packaging

Prior to loading containers, IT shall provide notice to WPRAP, so that WAO and/or NTS Compliance personnel can be present during the loading of the containers. The container should be filled such that the interior volume is as compactly loaded as practical up to the maximum gross weight of the container. Each container will contain only chemically compatible non-typical waste.

To the extent possible, the container loading operations will be performed in support of eventual off-site disposition. Specifically, containerization will be done in accordance with the MSCC, and loading activities will be performed so as to optimize the use of the container (i.e., the container will be filled such that the interior volume is as compactly loaded as practical up to the maximum gross weight of the container).

After the container is full, IT will decontaminate the container such that it meets release criteria, and can be moved by WGS from the Pit 4/6 transfer point to an appropriate WGS storage location. At this time, WAO will complete the appropriate paperwork for each container, and will notify WGS of the types and number of containers ready to be transferred from IT.

Waste Transfer

Upon notification, WGS will send the required vehicles and personnel to the IT non-typical transfer point, to support the loading of the containers onto WGS transfer vehicles, and the transport to the designated WGS storage area. Any documentation developed in support of the non-typical waste determination, as well as other documentation necessary to support the off-site transportation and disposal, will be provided to WGS along with the filled container(s).

Storage

The materials transferred from IT to WGS will be placed in the current inventory and entered into the appropriate waste stream for final disposition. The key facility to be used for the storage of these non-typical wastes, pending off-site disposition, is the Plant 1 Pad complex. Depending, however, on the characteristics of the material, the need for treatment, and specific disposal options/opportunities, the material may also be stored at other approved storage locations. No matter what the storage location, proper storage inspections, and monitoring, will be provided in compliance with State and Federal regulations. Materials will be stored at one or more of these locations (or any other approved location) until the proper characterization and treatment is performed (as necessary), and until off-site disposal is arranged.

Treatment/Disposal

WGS will be responsible for arranging for the proper disposal of any non-typical waste generated through the OU1 remediation activities. The final disposal location, however, will depend on the characteristics of the material, the volume of material, and/or the timeframe during which the material is encountered.

As indicated previously, it has been assumed that the non-typical waste encountered during bin sampling, has been so designated because sampling has shown it to be RCRA characteristic for hazardous metals. As such, the plan would be to transport this material by truck to an off-site vendor for treatment (assumed to be Broad Spectrum). Treatment costs will include disposal of the treated waste at Envirocare.

R1-D-356

1.5.2 Quantification – Non-Typical Waste Operations

As indicated previously, the plan represented by this document is that a total of 10,000 ft³ of non-typical waste will be encountered through the remaining portion of waste processing. As further stated, the assumption is that this quantity will be encountered through eight bin failures of 1,250 ft³ each, with the failure due to the material being RCRA characteristic for hazardous metals.

To determine the resources needed by WGS to support the activities identified in Section 1.5.1, the above information was provided to WGS for estimating in accordance with Appendix E of the IWMP. This process produced estimates of personnel resources needed to manage each 1,250 ft³ campaign, from initial notification to off-site treatment/disposal. Table 1 provides a summary of the identified manpower needs (as identified in the attached WGS spreadsheet).

Table 1

RESOURCE CLASSIFICATION	QUANTITY	
	TO BE APPLIED TO EACH CAMPAIGN (over a quarter)	TO BE ADDED TO EVERY OTHER CAMPAIGN (over a quarter)
Hazwat	0.1	0
Motor Vehicle Operator	0.1	0
Rad Tech	0.1	0
QA/QC Technician	0.3	0
Safety Technician	0.1	0
Rad Engineer	0.8	0
Safety Engineer	0.3	0
Waste Engineer	0.7	0
Project Manager	0.8	0
Heavy Equipment Operator	0	0.1
Transportation Laborer	0	0.1
Operations Manager	0	0.1
Technical Writer	0	0.1
Buyer/Contracts Administrator	0	0.1
Clerks	0	0.1

These campaigns (i.e., to manage the bin failures) have been assumed to occur as follows: one in FY01; two in FY02; three in FY03; and two in FY04. In that it will take approximately one year from the time that WGS receives the waste from WPRAP, until it is sent off-site by WGS for treatment/disposal, it is being assumed that the resources will not be expended until one year of the non-typical waste being encountered.

In addition, through this estimating effort, associated WGS material and subcontract costs were identified for each bin failure campaign. Table 2 provides a summary of these costs.

Table 2

CLASSIFICATION	DOLLARS	NOTES
Materials	\$34,000 per campaign	Costs (per WGS) for containers, PPE, transportation, absorbent, etc. for managing each of the eight bin failure campaigns.
Subcontract	\$750,000 per campaign	Costs (per WGS) for treatment and disposal of the waste generated from each of the eight bin failure campaigns.

The only other Fluor Fernald costs to be expended in support of this non-typical waste management, is the cost for the analysis of the samples taken during the effort to define the extent of contamination in the bin. Table 3 provides a summary of these costs.

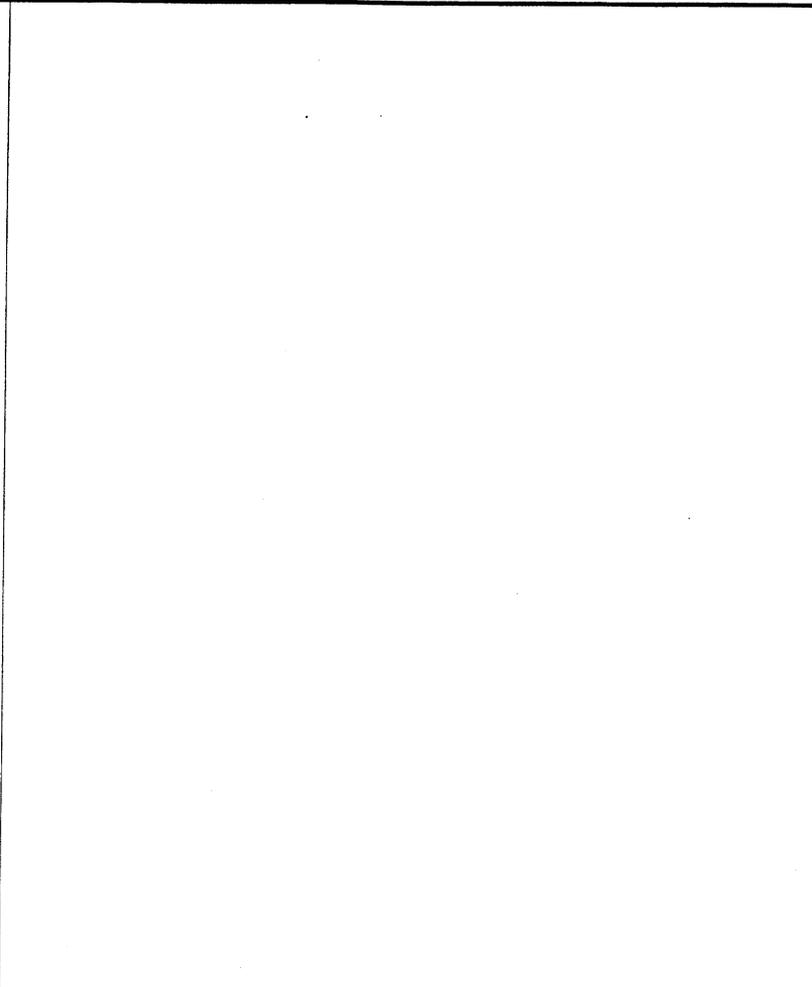
Table 3

CLASSIFICATION	DOLLARS	NOTES
Subcontract	\$20,000 per campaign	Costs for the analysis of 30 samples taken to define extent of contamination in bin.

SECTION 4

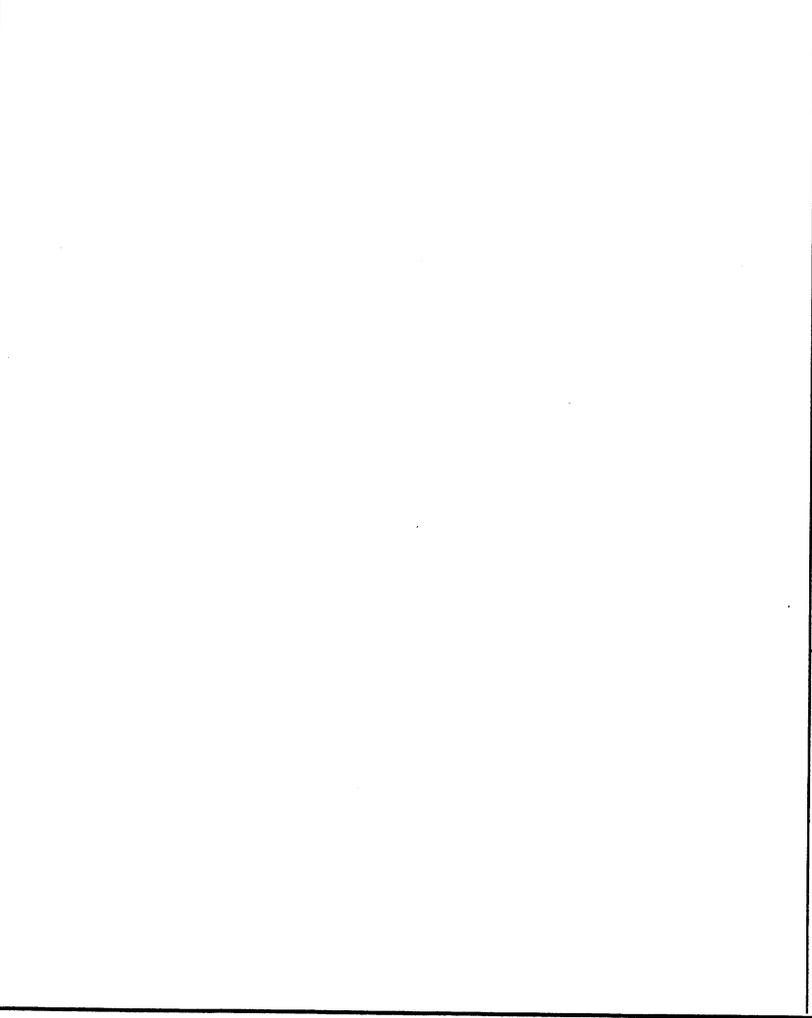
2.0 SCHEDULE

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
F PBS 05 - WASTE PITS				
1.1.F.D NON TYPICAL WASTE				
FNTW1 NON-TYPICAL WASTE OPERATIONS				
FHTW1OP510	Non-Typical Waste Operations	01DEC00	27SEP01	186
FHTW1OP500	Non-Typical Waste Operations	01DEC00	30JUN05	1,026*
FHTW1OP520	Non-Typical Waste Operations - 1250cf	01OCT01	30SEP02	224
FHTW1OP530	Non-Typical Waste Operations - 2500cf	01OCT02	30SEP03	224
FHTW1OP540	Non-Typical Waste Operations - 3750cf	01OCT03	30SEP04	225
FHTW1OP550	Non-Typical Waste Operations - 2500cf	01OCT04	30JUN05	167



Date	Revision	Checked/Approved
	F05-005	
	F05-008	
	F05-009	

Activity ID	Activity Description	Early Start	Early Finish	Orig Dur
F PBS 05 - WASTE PITS				
1.1.F.D NON TYPICAL WASTE				
FNTW1 NON-TYPICAL WASTE OPERATIONS				
FHTW1OP510	Non-Typical Waste Operations	01DEC00	27SEP01	186
FHTW1OP500	Non-Typical Waste Operations	01DEC00	30JUN05	1,026*
FHTW1OP520	Non-Typical Waste Operations - 1250cf	01OCT01	30SEP02	224
FHTW1OP530	Non-Typical Waste Operations - 2500cf	01OCT02	30SEP03	224
FHTW1OP540	Non-Typical Waste Operations - 3750cf	01OCT03	30SEP04	225
FHTW1OP550	Non-Typical Waste Operations - 2500cf	01OCT04	30JUN05	167



Sheet 1 of 1

WASTE PITS

1.1.F.D NON TYPICAL WASTE

BLCF - FH01

Start Date	01DEC00
Finish Date	30SEP05
Data Date	01DEC00
Run Date	09SEP01 11:26

FLUOR FERNALD

© Primavera Systems, Inc.

SECTION 4

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1FD01 NON-TYPICAL WASTE DISPOSITION

DRIVERS	START DATE	END DATE	TOT	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				FY 2006							
				Q1	Q2	Q3	Q4																								
501 D & D OF RAILCARS	03/21/2005	09/22/2005	0.80	0	0	0	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0	0.1	0	0	0	0	0
502 WASTE PIT SHIP/DISPOSAL OPERATIONS	10/02/2000	08/01/2005	0.80	0	0	0	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0	0.1	0	0	0	0	0
503 WASTE PITS OPERATIONS DEMOB	09/02/2005	10/03/2005	0.40	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0
504 WASTE PIT OPERATIONS	10/02/2000	03/31/2005	0.40	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0
General Labor	Hazwat		0.80	0	0	0	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0	0.1	0	0	0	0	0
Transportation Labor	Motor Vehicle Operator		0.80	0	0	0	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0	0.1	0	0	0	0	0
Transportation Labor	Heavy Equipment Operator		0.40	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0
Transportation Labor	Transportation Laborer		0.40	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0
Operations	Operations Manager		0.40	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0
Environmental Safety & H	Rad Tech		0.80	0	0	0	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0	0.1	0	0	0	0	0
QA/QC	QA/QC Tech.		2.40	0	0	0	0	0	0	0.3	0	0.3	0	0.3	0	0.3	0.3	0.3	0	0.3	0.3	0.3	0	0.3	0	0.3	0	0	0	0	0
Environmental Safety & H	Safety Tech.		0.80	0	0	0	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0	0.1	0	0	0	0	0
Environmental Safety & H	Rad Engineer		6.40	0	0	0	0	0	0	0.8	0	0.8	0	0.8	0	0.8	0.8	0.8	0	0.8	0.8	0.8	0	0.8	0	0.8	0	0	0	0	0
Environmental Safety & H	Safety Engineer		2.40	0	0	0	0	0	0	0.3	0	0.3	0	0.3	0	0.3	0.3	0.3	0	0.3	0.3	0.3	0	0.3	0	0.3	0	0	0	0	0
Waste Management	Waste Engineer		5.60	0	0	0	0	0	0	0.7	0	0.7	0	0.7	0	0.7	0.7	0.7	0	0.7	0.7	0.7	0	0.7	0	0.7	0	0	0	0	0
Administration	Technical Writer		0.40	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0
Procurement	Buyer/Contracts Administrator		0.40	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0	0	0
Project Management	Project Mgr.		6.40	0	0	0	0	0	0	0.8	0	0.8	0	0.8	0	0.8	0.8	0.8	0	0.8	0.8	0.8	0	0.8	0	0.8	0	0	0	0	0
Administration	Clerks		0.50	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0	0	0
Sheet Totals:			28.90	0.00	0.00	0.00	0.00	0.00	0.00	3.30	0.00	3.90	0.00	3.30	0.00	3.90	3.30	3.30	0.00	3.90	3.30	3.90	0.00	3.90	0.00	3.90	0.00	0.10	0.00	0.00	0.00

SECTION 4

4.0 ESTIMATE

FNTW1

NON-TYPICAL WASTE OPERATIONS

Fluor Fernald, Inc.

PBS: OHFN05
WBS: 1.1.F.D
CTRL ACCT: FNTW
CHARGE NO: FNTW1
COMMENT NO: F-05-001

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

Resource:	BUYCON	BUYER/CONTRACTS ADMIN		EOC:		LABOR					
Res Dept:	947	Overtime:	Class:	SAL	SAL						
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		0.0	0.0	42.1	42.1	83.5	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:		0.0	0.0	42.1	84.2	167.7	167.7	167.7	167.7	167.7	167.7
Cum Total Cost:		0	0	1,967	2,083	4,375	8,425	8,425	8,425	8,425	8,425

Resource:	CLERKS	LABOR		EOC:		LABOR					
Res Dept:	947	Overtime:	Class:	SAL	SAL						
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		0.0	0.0	42.1	42.1	83.5	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:		0.0	0.0	42.1	84.2	167.7	167.7	167.7	167.7	167.7	167.7
Cum Total Cost:		0	0	1,121	1,187	2,495	4,804	4,804	4,804	4,804	4,804

Resource:	HAZWAT	LABOR		EOC:		LABOR					
Res Dept:	947	Overtime:	Class:	HOU	HOU						
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		0.0	44.8	86.3	130.6	83.5	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:		0.0	44.8	131.1	261.7	345.2	345.2	345.2	345.2	345.2	345.2
Cum Total Cost:		0	1,358	2,770	4,439	3,006	0	0	0	0	0

Resource:	HEOOPR	LABOR		EOC:		LABOR					
Res Dept:	947	Overtime:	Class:	HOU	HOU						
Yr Hours:		Oct 00- Sep 01	Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:		0.0	0.0	42.1	42.1	83.5	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:		0.0	0.0	42.1	84.2	167.7	167.7	167.7	167.7	167.7	167.7
Cum Total Cost:		0	0	1,477	1,564	3,285	6,326	6,326	6,326	6,326	6,326

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01

PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Karl Spring
FISCAL YEAR: 01-05

PBS: OHFN05
WBS: 1.1.F.D
CTRL ACCT: FNTW
CHARGE NO: FNTW1
COMMENT NO: F-05-001

Resource: MAT300
Res Dept: 947

MATERIAL OBJCLASS300
OverTime: Class: EOC: MAT

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 02	Sep 03	Sep 03	Sep 04	Sep 04	Sep 05	Sep 05	Sep 06	Sep 06	Sep 07	Sep 07	Sep 08	Sep 08	Sep 09	Sep 09	Sep 10	Sep 10	
Yr Units:	0.0	33,794.0	33,794.0	101,382.0	101,382.0	101,382.0	202,764.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0
Cum Units:	0.0	33,794.0	33,794.0	101,382.0	101,382.0	202,764.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0	270,352.0
Yr Total Cost:	0	34,706	34,706	71,287	109,925	215,918	291,253	291,253	291,253	291,253	291,253	291,253	291,253	291,253	291,253	291,253	291,253	291,253	291,253	291,253
Cum Total Cost:	0	34,706	34,706	105,993	177,280	287,198	578,451	869,704	1,160,957	1,452,210	1,743,463	2,034,716	2,325,969	2,617,222	2,908,475	3,200,728	3,491,981	3,783,234	4,074,487	4,365,740

Resource: MVOOPR
Res Dept: 947

MOTOR VEHICLE OPER
OverTime: Class: EOC: HOU

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 02	Sep 03	Sep 03	Sep 04	Sep 04	Sep 05	Sep 05	Sep 06	Sep 06	Sep 07	Sep 07	Sep 08	Sep 08	Sep 09	Sep 09	Sep 10	Sep 10	
Yr Hours:	0.0	44.8	44.8	131.1	86.3	130.6	261.7	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0
Cum Hours:	0.0	44.8	44.8	131.1	130.6	261.7	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0	348.0
Yr Total Cost:	0	1,361	1,361	2,777	4,138	8,588	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703
Cum Total Cost:	0	1,361	1,361	4,138	8,588	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703	11,703

Resource: OPRMGR
Res Dept: 947

OPERATIONS MGR
OverTime: Class: EOC: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 02	Sep 03	Sep 03	Sep 04	Sep 04	Sep 05	Sep 05	Sep 06	Sep 06	Sep 07	Sep 07	Sep 08	Sep 08	Sep 09	Sep 09	Sep 10	Sep 10	
Yr Hours:	0.0	0.0	0.0	42.1	42.1	84.2	2,589	5,459	83.5	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	
Cum Hours:	0.0	0.0	0.0	42.1	84.2	2,589	5,459	5,459	5,459	5,459	5,459	5,459	5,459	5,459	5,459	5,459	5,459	5,459	5,459	
Yr Total Cost:	0	0	0	2,454	2,454	5,052	10,512	10,512	10,512	10,512	10,512	10,512	10,512	10,512	10,512	10,512	10,512	10,512	10,512	
Cum Total Cost:	0	0	0	2,454	4,908	9,816	19,732	29,648	39,564	49,480	59,396	69,312	79,228	89,144	99,060	108,976	118,892	128,808	138,724	

Resource: PRJMGR
Res Dept: 947

PROJECT MANAGER
OverTime: Class: EOC: SAL

	Oct 00-		Oct 01-		Oct 02-		Oct 03-		Oct 04-		Oct 05-		Oct 06-		Oct 07-		Oct 08-		Oct 09-	
	Sep 01	Sep 02	Sep 02	Sep 03	Sep 03	Sep 04	Sep 04	Sep 05	Sep 05	Sep 06	Sep 06	Sep 07	Sep 07	Sep 08	Sep 08	Sep 09	Sep 09	Sep 10	Sep 10	
Yr Hours:	0.0	358.4	358.4	1,048.8	690.4	1,044.8	2,093.6	2,761.6	668.0	1,677.6	1,677.6	1,677.6	1,677.6	1,677.6	1,677.6	1,677.6	1,677.6	1,677.6	1,677.6	
Cum Hours:	0.0	358.4	358.4	1,048.8	1,739.2	2,784.0	4,877.6	7,639.2	8,307.2	9,984.8	11,662.4	13,340.0	15,017.6	16,695.2	18,372.8	20,050.4	21,728.0	23,405.6	25,083.2	
Yr Total Cost:	0	33,635	33,635	68,628	109,981	174,485	286,729	400,973	515,467	629,961	744,455	858,949	973,443	1,087,937	1,202,431	1,316,925	1,431,419	1,545,913	1,660,407	
Cum Total Cost:	0	33,635	67,270	135,905	204,540	273,175	341,810	410,445	479,080	547,715	616,350	684,985	753,620	822,255	890,890	959,525	1,028,160	1,096,795	1,165,430	

Fluor Fernald, Inc.

PBS: OHFN05

WBS: 1.1.F.D

CTRL ACCT: FNTW

CHARGE NO: FNTW1

COMMENT NO: F-05-001

DATE: 9/8/01

PROJECT MGR: Mark Cherry

CAM: Mark Cherry

PREPARED BY: Karl Spring

FISCAL YEAR: 01-05

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

Resource:	Res Dept:	QA/QC TECH	Overtime:	Class:	LABOR											
					EOC:	SAL		EOC:		SAL		EOC:		SAL		
		Oct 00-			Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-			
		Sep 01			Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10			
Yr Hours:		0.0			134.4	258.9	391.8	250.5	0.0	0.0	0.0	0.0	0.0			
Cum Hours:		0.0			134.4	393.3	785.1	1,035.6	1,035.6	1,035.6	1,035.6	1,035.6	1,035.6			
Yr Total Cost:		0			4,368	8,913	14,284	9,674	0	0	0	0	0			
Cum Total Cost:		0			4,368	13,292	27,566	37,240	37,240	37,240	37,240	37,240	37,240			

Resource:	Res Dept:	RAD ENGINEER	Overtime:	Class:	LABOR											
					EOC:	SAL		EOC:		SAL		EOC:		SAL		
		Oct 00-			Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-			
		Sep 01			Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10			
Yr Hours:		0.0			358.4	690.4	1,044.8	668.0	0.0	0.0	0.0	0.0	0.0			
Cum Hours:		0.0			358.4	1,048.8	2,093.6	2,761.6	2,761.6	2,761.6	2,761.6	2,761.6	2,761.6			
Yr Total Cost:		0			17,806	36,331	58,222	39,431	0	0	0	0	0			
Cum Total Cost:		0			17,806	54,137	112,359	151,790	151,790	151,790	151,790	151,790	151,790			

Resource:	Res Dept:	RAD TECH	Overtime:	Class:	LABOR											
					EOC:	SAL		EOC:		SAL		EOC:		SAL		
		Oct 00-			Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-			
		Sep 01			Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10			
Yr Hours:		0.0			44.8	86.3	130.6	83.5	0.0	0.0	0.0	0.0	0.0			
Cum Hours:		0.0			44.8	131.1	261.7	345.2	345.2	345.2	345.2	345.2	345.2			
Yr Total Cost:		0			1,607	3,279	5,255	3,559	0	0	0	0	0			
Cum Total Cost:		0			1,607	4,886	10,141	13,700	13,700	13,700	13,700	13,700	13,700			

Resource:	Res Dept:	SAFETY ENGINEER	Overtime:	Class:	LABOR											
					EOC:	SAL		EOC:		SAL		EOC:		SAL		
		Oct 00-			Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-			
		Sep 01			Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10			
Yr Hours:		0.0			134.4	258.9	391.8	250.5	0.0	0.0	0.0	0.0	0.0			
Cum Hours:		0.0			134.4	393.3	785.1	1,035.6	1,035.6	1,035.6	1,035.6	1,035.6	1,035.6			
Yr Total Cost:		0			7,032	14,349	22,994	15,573	0	0	0	0	0			
Cum Total Cost:		0			7,032	21,381	44,375	59,948	59,948	59,948	59,948	59,948	59,948			

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 9/8/01

PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Kari Spring
FISCAL YEAR: 01-05

PBS: OHFN05
WBS: 1.1.F.D
CTRL ACCT: FNTW
CHARGE NO: FNTW1
COMMENT NO: F-05-001

Resource:	S&HTEC	947	SAFETY TECH	Overtime:	Class:		EOC:		LABOR										
					Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-						
Yr Hours:	0.0	44.8	86.3	130.6	83.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	44.8	131.1	261.7	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2	345.2
Yr Total Cost:	0	1,363	2,782	4,458	3,019	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	0	1,363	4,145	8,602	11,621	11,621	11,621	11,621	11,621	11,621	11,621	11,621	11,621	11,621	11,621	11,621	11,621	11,621	11,621

Resource:	SERVSUB	947	SUBS	Overtime:	Class:		EOC:		SUBCONTRACTORS										
					Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-						
Yr Units:	0.0	726,250.0	1,452,500.0	2,178,750.0	1,452,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	726,250.0	2,178,750.0	4,357,500.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0	5,810,000.0
Yr Total Cost:	0	745,859	1,531,984	2,362,335	1,618,987	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	0	745,859	2,277,853	4,640,187	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174	6,259,174

Resource:	TECWRT	947	TECHNICAL WRITER	Overtime:	Class:		EOC:		LABOR										
					Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-						
Yr Hours:	0.0	42.1	84.2	167.7	83.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	42.1	84.2	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7
Yr Total Cost:	0	2,119	2,244	4,715	9,078	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	0	2,119	4,363	9,078	9,078	9,078	9,078	9,078	9,078	9,078	9,078	9,078	9,078	9,078	9,078	9,078	9,078	9,078	9,078

Resource:	TRNLAB	947	TRANSPORT LABORER	Overtime:	Class:		EOC:		LABOR										
					Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-						
Yr Hours:	0.0	42.1	84.2	167.7	83.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	42.1	84.2	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7	167.7
Yr Total Cost:	0	1,158	1,227	2,577	4,962	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum Total Cost:	0	1,158	2,385	4,962	4,962	4,962	4,962	4,962	4,962	4,962	4,962	4,962	4,962	4,962	4,962	4,962	4,962	4,962	4,962

Fluor Fernald, Inc.

PBS: OHFN05
WBS: 1.1.F.D
CTRL ACCT: FNTW
CHARGE NO: FNTW1
COMMENT NO: F-05-001

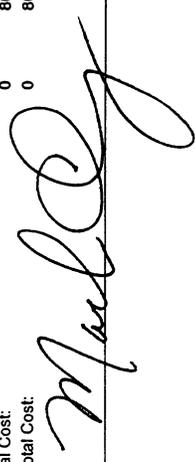
DATE: 9/8/01
PROJECT MGR: Mark Cherry
CAM: Mark Cherry
PREPARED BY: Kari Spring
FISCAL YEAR: 01-05

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

Resource: Res Dept:	WSTENG 947	WASTE ENGINEER Overtime:	Class:		EOC:		LABOR		EOC:		
			Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-
Yr Hours:			Oct 01- Sep 02	Oct 02- Sep 03	Oct 03- Sep 04	Oct 04- Sep 05	Oct 05- Sep 06	Oct 06- Sep 07	Oct 07- Sep 08	Oct 08- Sep 09	Oct 09- Sep 10
Cum Hours:			313.6	604.1	914.2	584.5	0.0	0.0	0.0	0.0	0.0
Yr Total Cost:			16,844	34,369	55,078	37,302	2,416.4	2,416.4	2,416.4	2,416.4	2,416.4
Cum Total Cost:			16,844	51,213	106,292	143,594	143,594	143,594	143,594	143,594	143,594

GRAND TOTALS:

Yr Hours:	0.0	3,100.5	4,562.4	3,259.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	0.0	1,478.4	4,578.9	9,141.3	12,400.6	12,400.6	12,400.6	12,400.6	12,400.6	12,400.6	12,400.6
Yr Total Cost:	0	865,940	1,787,775	2,762,323	1,906,394	0	0	0	0	0	0
Cum Total Cost:	0	865,940	2,653,715	5,416,038	7,322,432	7,322,432	7,322,432	7,322,432	7,322,432	7,322,432	7,322,432

CAM:  CONTROL TEAM: 

WASTE DISPOSITION COST WORKSHEET SUMMARY

PROJECT: WPRAP

PROJECT MANAGER: Mark Cherry

*PBS: 05

WBS: 2.1.2.H

Total Waste Volume: 10,000 cu. ft.

Total Waste Containers: IP1 ISO

TOTAL DURATION: FY-01 TO FY-04

FISCAL YEAR: FY-01

PREPARED BY: Jerry Erfman

DATE PREPARED: 1-May-01

Waste Stream	Total Hours	Labor Cost	Material Cost	Subcontract Cost	Burial Cost	Total Cost	Total Cost Minus Burial
Debris Movements	0	\$0	\$0	\$0	\$0	\$0	\$0
LLW Asbestos	0	\$0	\$0	\$0	\$0	\$0	\$0
Compactable Trash	0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Compactable Trash	0	\$0	\$0	\$0	\$0	\$0	\$0
LLW Soils	0	\$0	\$0	\$0	\$0	\$0	\$0
LLW Residues	0	\$0	\$0	\$0	\$0	\$0	\$0
Liquid Mixed Waste	0	\$0	\$0	\$0	\$0	\$0	\$0
MW Meeting LDR	0	\$0	\$0	\$0	\$0	\$0	\$0
Organic Waste	0	\$0	\$0	\$0	\$0	\$0	\$0
Inorganic RCRA Soils	5,056	224,658	270,354	5,810,000	0	6,305,012	6,305,012
Lead	0	\$0	\$0	\$0	\$0	\$0	\$0
Hazardous Waste	0	\$0	\$0	\$0	\$0	\$0	\$0
PROJECT SUBTOTALS:	5,056	\$224,658	\$270,354	\$5,810,000	\$0	\$6,305,012	\$6,305,012

Total Hours By Skill	HAZWAT	MVOOPR	HEOOPR	TRNLAB	MILWRT/PIPFTR	OPRMGR	RADTEC	QACENG	WSTENG	HAZMAT	RADENG	S&HENG	S&HTEC	MPCREP	TPSREP	BUYCON	PRJMGR	CLERKS
	514	306	68	156	4	100	222	178	20	529	305	139	36	29	40	420	57	

General Basis of Estimate Comments:

1. Narrative

1.1 Overview – Charge #FNTW1 – Non-Typical Waste Operations

In the event that IT identifies any non-typical wastes during its waste processing activities, these wastes are to be turned over to Fluor Fernald Waste Generator Services (WGS) for management, including necessary treatment and disposal. Specifically, it is assumed that a certain amount of non-typical waste material will be encountered by IT as a part of its waste processing operations. Non-typical wastes are those materials which, after processing (e.g., blending, drying, size-reduction, etc.), still do not meet the Envirocare Waste Acceptance Criteria (WAC). Charge number FNTW1 covers the services to be performed by WGS relative to the management of these non-typical wastes.

These campaigns (i.e., to manage the bin failures) have been assumed to occur as follows: one in FY01; two in FY02; three in FY03; and two in FY04. In that it will take approximately one year from the time that WGS receives the waste from WPRAP, until it is sent off-site by WGS for treatment/disposal, it is being assumed that the resources will not be expended until one year of the non-typical waste being encountered.

2 Assumptions – Charge #FNTW1 – Non-Typical Waste Operations

- No non-typical wastes will be encountered after FY04, when excavation of the waste pit materials are expected to be complete.
- For planning purposes, it is assumed that the only non-typical wastes which will be encountered, are materials found to be RCRA characteristic for inorganic constituents, through the bin sampling in the Railcar Loadout Building (RLB).
- 10,000 ft³ of non-typical waste will be generated through the processing of the waste pit materials, over the remainder of the project.
- There will be eight bin failures over the remainder of the project, and each time sampling of the waste will allow the project to carve out a small portion of the bin as being non-compliant. Specifically, about 1,250 ft³ of material will need to be addressed as non-typical waste in each of these eight instances.
- The bin failures are assumed to occur as follows: one in FY01; two in FY02; three in FY03; and two in FY04.
- WPRAP personnel assigned to Operations Oversight and/or Project Management, will be responsible for the development of the specific sampling program to be used in assessing the extent of the contamination. This plan will also propose the path forward for isolating any non-compliant materials.
- Per the WPRAP Waste Materials Sampling and Analysis Plan, the event-specific bin sampling plan will be submitted to OEPA/USEPA for review and approval.
- Bin sampling will be conducted using existing WPRAP Fluor Fernald resources. Specifically, the sampling effort will be implemented using FAT&LC personnel assigned to the project and accounted for under Waste Pit Operations).
- Thirty samples will be required each time that a non-compliant bin is encountered, with these samples analyzed through the FEMP laboratory.

9. Material from a bin failure will be loaded by IT (under the existing subcontract) into 3 IP1 inter-modal containers provided by WGS.
11. WGS will be responsible for performing the following activities: campaign planning; sampling and visual characterization; characterization; containers and necessary prepping; container movements; loading and shipping; and treatment and disposal. WGS will identify the needed resources, and WPRAP will budget for those resources.
12. For planning purposes, it has been assumed that it will take one year from the time that WGS receives the waste from WPRAP, until it is dispositioned off site by WGS.
13. Treatment of the non-typical waste will be through an off-site vendor (i.e., Broad Spectrum), with the cost for management by this vendor including the cost for burial at Envirocare.

3. SPECIFIC EXCLUSIONS

1. IT costs for management of the non-typical wastes, and WPRAP Fluor Fernald costs for oversight of these IT activities.
2. Beginning in FY02, all resources provided by WAO, in support of non-typical waste disposition (as described in the following sections); rather, they are to reside in PBS-12.

4. Drivers – Charge #FNTW1 – Non-Typical Waste Operations

1. Various EPA approved documents, such as the Remedial Design Work Plan, the Remedial Action Work Plan, the WPRAP Remedial Design Package, the WPRAP Remedial Action Package, and the WPRAP Non-Typical Waste Management Plan – which define how non-typical waste is to be managed (including the process for trying to carve out a portion of a failed bin through sampling).
2. The IT Subcontract (#98SC00001) – which defines both Fluor Fernald and IT responsibilities relative to the management of any non-typical waste encountered by IT during waste processing.
3. Appendix N of the Integrated Waste Management Plan (IWMP) – which defines WGS support for the transfer of non-typical waste from WPRAP to WGS.
4. Appendix E of the IWMP – which defines the cost estimating process to be used by WGS as the basis for estimating the cost for WGS management of various FEMP waste streams.

5 Technical Scope and Quantification – Charge #FNTW1 – Non-Typical Waste Operations

5.1 Plan/Scope – Non-Typical Waste Operations

This plan/scope covers the activities and resources required by Fluor Fernald WGS to properly manage any wastes identified by IT as being non-typical. Under the IT subcontract, IT is responsible for certain activities, upon discovery of any non-typical waste, through packaging and transfer to Fluor Fernald. This plan covers the processes/activities undertaken by WGS to support storage, treatment, and disposal of any such non-typical wastes encountered by IT during its waste processing activities.

For consistency with the prime contract, it is assumed that the non-typical waste which will be generated through the remainder of the OU1 remediation activities will be 10,000 ft³ of soils, which are found through the RLB sampling and analysis to be non-compliant with respect to the Envirocare WAC.

Under this scenario, WPRAP will attempt to carve out the non-compliant portion of the bin. Given the significantly increased expense associated with managing this quantity of material (i.e., about 600 tons) as Envirocare non-compliant waste, this option would involve the taking of additional samples designed to isolate those portions of the 600 ton lot that are contributing to the non-compliance. Those portions causing the exceedence would then be segregated (by IT, under the existing subcontract) for management as non-typical waste.

As previously stated, Fluor Fernald is responsible under the IT subcontract for the disposal of any non-typical wastes found by IT through its waste pit processing activities. To support the eventual disposal of these materials, Fluor Fernald is responsible for ensuring the availability of resources for the following types of activities: planning, containers, segregation and packaging, waste transfer, storage, characterization, and treatment/disposal. The processes associated with these activities, including interfaces with IT, are discussed below.

Planning

Before non-typical waste can be transferred to WGS, there are planning tasks which must be completed by Fluor Fernald. To the extent practical, a number of these tasks have been completed, based on the information available. For example, based on process knowledge, potential non-typical waste streams have been identified, and associated Material Evaluation Forms (MEFs) completed. Using this information, WAO has developed a Project Waste Identification and Disposition (PWID) report and Material Segregation and Containerization Criteria (MSCC) report to identify the disposition and containerization requirements for these specific waste streams.

In general, the non-typical wastes that are expected to be encountered during the remediation of the waste pits have been found and evaluated previously at this site. In fact, systems already exist or can easily be developed for the processing and disposal of such wastes. WGS has pulled together this information, including the MEF numbers, containers, and needed paperwork, for each of the anticipated waste streams, and documented this information in Appendix N of the Integrated Waste Management Plan.

Because of the uncertainties in the quantities of those materials, and the timing within which they would be encountered, not all of the planning can be accomplished ahead of time. In other words, some task order preparation work will need to be completed once it becomes evident what the specific material is, what the volume of material is, etc. Finally, paperwork associated with specific containers of material, which can only be generated when the material is containerized, will need to be developed and processed.

For a bin failure, the specific approach for defining the extent of the problem will be developed when the non-compliant event occurs. Based upon the specific circumstances surrounding the event, a plan will be developed by WPRAP Operations Oversight and/or Project Management, defining a specific sampling program to be used in assessing the extent of the contamination. This plan will also propose the path forward for isolating any non-compliant materials. Per the WPRAP Waste Materials Sampling and Analysis Plan, this event specific plan will be submitted to OEPA/USEPA for review and approval.

Characterization

In the case of the bin failure, the resultant sampling effort will be conducted using existing WPRAP Fluor Fernald resources, and the FEMP laboratory. Specifically, the sampling effort will be implemented using FAT&LC personnel assigned to the project (and accounted for under Waste Pit Operations). Samples will be analyzed through the FEMP laboratory. It is assumed that approximately 30 samples will be required to support this effort, each time that a non-compliant bin is encountered.

For planning purposes, it is assumed that through the above sampling process the project is able to carve out a small portion of the bin as being non-compliant. Specifically, it is assumed that about 1,250 ft³ of material from the bin (or about a tenth of the bin) will need to be containerized for transfer to WGS for management as non-typical waste.

In support of the off-site disposition of the non-typical waste generated through the OU1 remediation efforts, it may be necessary for WGS to arrange for further characterization of the waste. Although the plan is to perform as much characterization as possible prior to transfer to WGS, WGS may find it necessary to perform additional characterization once waste management responsibility has been transferred from IT to Fluor Fernald. For example, if a new treatment/disposal option becomes available, WGS may be required to perform additional characterization to support this option (e.g., to determine its viability with respect to that waste stream).

Containers

As soon as WPRAP knows the types and quantity of non-compliant waste encountered, WGS will be notified so that any additional planning activities can be initiated, such as ensuring that appropriate containers are made available. With the assumption that 1,250 ft³ of material in a bin were to be managed as non-typical waste, three ISO type containers would probably be used for the transfer and storage of the material.

Fluor Fernald, as required by the subcontract with IT, is responsible for providing containers to IT in which any non-typical wastes are to be placed, for transfer to WGS. IT has designated within its various project documents that the transfer of these containers will take place at a point located between Pits 4 and 6, along the existing road.

When a bin of the material is desired, WGS will be notified of the type of material being stored and an approximate quantity to enable them to select the appropriate containers. Pursuant to the IT subcontract, a request for containers shall be in writing from IT, and shall be forwarded to WPRAP operations oversight personnel five days prior to the need for the containers. This request should specify the number and type of containers to be provided. WPRAP will complete the request for containers form, and forward it to WGS. WGS will coordinate with the WPRAP On-Site Rail Operations Manager for delivery of the containers. WGS will supply and arrange for transport of suitable containers to the WPRAP non-typical waste transfer point.

From the transfer point, IT is responsible for transferring the containers to the loading location. Specifically, in the case of a bin failure, containers will be taken to the RLB, where the waste is to be loaded by IT. After loading, the container is taken back to the temporary storage location after decontamination. This activity will be conducted such that cross-contamination does not occur.

To support the disposition (i.e., direct shipment) of this material on-site, WGS will prep the containers (e.g., with required absorbent materials) prior to providing them to IT, in an effort to minimize double-handling of this material. The only marking on the empty containers is the Inventory Number, which is assigned before the container is delivered to the waste transfer station.

Upon receipt of the containers, WAO and/or NTS Compliance will perform a visual inspection to ensure that the containers do not contain any freestanding liquids, and that the container is properly prepared.

Segregation and Packaging

Prior to loading containers, IT shall provide notice to WPRAP, so that WAO and/or NTS Compliance personnel can be present during the loading of the containers. The container should be filled such that the interior volume is as compactly loaded as practical up to the maximum gross weight of the container. Each container will contain only chemically compatible non-typical waste.

To the extent possible, the container loading operations will be performed in support of eventual off-site disposition. Specifically, containerization will be done in accordance with the MSCC, and loading activities will be performed so as to optimize the use of the container (i.e., the container will be filled such that the interior volume is as compactly loaded as practical up to the maximum gross weight of the container).

After the container is full, IT will decontaminate the container such that it meets release criteria, and can be moved by WGS from the Pit 4/6 transfer point to an appropriate WGS storage location. At this time, WAO will complete the appropriate paperwork for each container, and will notify WGS of the types and number of containers ready to be transferred from IT.

Waste Transfer

Upon notification, WGS will send the required vehicles and personnel to the IT non-typical transfer point, to support the loading of the containers onto WGS transfer vehicles, and the transport to the designated WGS storage area. Any documentation developed in support of the non-typical waste determination, as well as other documentation necessary to support the off-site transportation and disposal, will be provided to WGS along with the filled container(s).

Storage

The materials transferred from IT to WGS will be placed in the current inventory and entered into the appropriate waste stream for final disposition. The key facility to be used for the storage of these non-typical wastes, pending off-site disposition, is the Plant 1 Pad complex. Depending, however, on the characteristics of the material, the need for treatment, and specific disposal options/opportunities, the material may also be stored at other approved storage locations. No matter what the storage location, proper storage inspections, and monitoring, will be provided in compliance with State and Federal regulations. Materials will be stored at one or more of these locations (or any other approved location) until the proper characterization and treatment is performed (as necessary), and until off-site disposal is arranged.

Treatment/Disposal

WGS will be responsible for arranging for the proper disposal of any non-typical waste generated through the OU1 remediation activities. The final disposal location, however, will depend on the characteristics of the material, the volume of material, and/or the timeframe during which the material is encountered.

As indicated previously, it has been assumed that the non-typical waste encountered during bin sampling, has been so designated because sampling has shown it to be RCRA characteristic for hazardous metals. As such, the plan would be to transport this material to an off-site vendor for treatment (assumed to be Broad Spectrum). Treatment costs will include disposal of the treated waste at Envirocare.

SECTION 4

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: Non-Typical Waste		PBS Number: 05		Total Baseline Dollars (Minimum Case):		\$7,322,432				
Evaluator: Dalga		Date: April 20, 2001		WBS Number: 1.1.F.D						
CAM:W. Bensen		Date: April 20, 2001		Control Account Number: FNTW						
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost \$K (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Non-Typical Waste	Increase in non-typical waste quantities by 50%	Treatment cost for additional waste	Internal	\$4,000,000.00	3	25	2	\$1,000,000.00	3	Accept
Total:				\$4,000,000.00				\$1,000,000.00		

